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We may, perhaps, attribute this to the unaccountable prejudice—excluding attention in their clumsy vessels; or to the other fact that since her own territory she produces everything deemed requisite for the wants of her population.

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COMMERCIAL REVIEW.

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Art. I.—PROGRESS OF COMMERCE AND SCIENCE.

THOUGHTS ON NAVIGATION—WAR—HUNTING AND FISHING—AGRICULTURE
—MINING—MANUFACTURES.

In the present age mercantile interests are closely connected with almost every pursuit. Very few vocations may be found that do not exhibit a visible tie connecting them with Commerce. Some, of course, are more intimately bound to it than others; and these links are larger or smaller, clearer or more obscure, according to the circumstances of the case.

Empire has been rare without command of the sea. To have the Mediterranean, in ancient days, was to govern the world. The policy of the priest nobles of Egypt and India was to divert popular attention from marine vocations. The same has been the case generally with Asia and Africa. Continental Europe has allowed Britannia to rule the waves. In 1208 Magna Charta, by its regulations, gave protection to foreign merchants, prohibited delays in the administration of justice, and gave new encouragements to Commerce. International treaties followed; and a mercantile spirit was poured forth, copiously refreshing to the country's prosperity. Navigation acts were framed, marine facilities progressed, and improved ships sailed from port to port in many directions.

With China, that ancient country, how different a policy has been pursued! The Chinese may be said to be anything but economists of time on the water. The speed of their traveling boats bears no resemblance to that of our steamers. Though they have given practical simplicity and effect to many mechanical powers, yet of the motor strength in the giant arm of steam, they are altogether ignorant. "However ancient their knowledge of the compass, the art of navigation among them," says

Davis,* "has rather retrograded than advanced in later times. It is clear that they once navigated as far as India, and their most distant voyages at present extend no further than Java and the Malay Islands to the south."

We may, perhaps, attribute this apathy to the unconquerable prejudice—forbidding alteration in their clumsy, unsafe junks; or to the other fact that within her own territory she produces everything deemed requisite for the wants of her population.

At the present day among commercial nations, profits of enterprise demand brevity of voyage. Authentic records assure us that a proportion of wrecks and disasters annually occurring, results from errors of the compass. These errors are attributed to the iron used in the construction of vessels, to the presence of tanks and funnels; or to defects in the compasses themselves as supplied in ordinary trade. In vessels of war particularly, the attractive power of the guns is great. As these deviations differ in vessels, there is no remedy for ascertaining the true amount but by direct experiment. Each ship of the Royal Navy has its compass adjusted previous to setting sail on a long voyage. Hence, the establishment of the "Compass Observatory" in England. It remains to be fully developed whether similar precautions are soon to be taken in the mercantile marine, so that future hazards and losses may be independent of these precautions.

The value of cargoes depends upon the nature of the voyage in many instances; favorable currents and fair winds facilitate progress. "It has been shown that Lieut. Maury's Charts and Sailing Directions," says Dr. Breist, "have shortened the voyages of American ships by about one-third." The Kew Committee had lately intrusted to them for verification and adjustment 1,000 thermometers and 50 barometers for the navy of the United States, as well as 500 thermometers and 60 barometers for the English service.

Hereafter, observations and surveys by scientific officers of the navy and mercantile marine are to be rendered more available to science and mankind. The British government has established a department in the Board of Trade to carry out valuable recommendations for improving navigation and accumulating meteorological data. Meanwhile, the National Observatory at Washington has not been idle; and a large number of ships, chiefly American, are now engaged in observations, stimulated by the advice and aided by documents liberally furnished by the United States. The two countries of Anglo-Saxon origin are broadly proclaiming the advantages of the sea. Neither the chivalrous knight nor the warlike crusader, but the courteous merchant, is a prominent character of the age. His main aid is the sailor. Good-will goes forth with the sailor, and in him you find your citizen of the world. The mission of the soldier is aggressive; that of the sailor is pacific. The one marches to conflict and carries with him terror and ruin; the other bears tidings of peace and is hailed with pleasure and profit.

Denmark, Sweden, Holland, Russia, and France, exhibit large commercial tonnage, with considerable naval force; but the great bulk of commercial tonnage is found with America and England. Acquirements of Commerce and its advances, accompanying increased facilities for navigation,

suggest corresponding improvements in naval power. In a retrospective view recur to Carthage, who, as she became wealthy and influential, attained the most commanding position in the world; but her avenues of power were mainly, if not entirely maritime and mercantile—and in this point her conqueror soon gained over her a vast advantage. The country having resources and means of a merely commercial character, may soon fall an easy prey to the eagerness of mercenary foes, whose power is superior or whose main policy points to valor and battle. Mr. Wheaton, in writing to our Secretary of State, 20th of November, 1827, from Copenhagen, says:—

"You can hardly have an adequate notion how this country (Denmark) was impoverished by the war brought upon it. * * * When we consider that they lost at a single blow their navigation and all their capital engaged in Commerce, we cannot wonder at their reluctance to enter into new engagements."

A navy not only adds vastly to geographical discovery, but affords its contributions to civilizing efforts and to science. It also hovers around the paths of the merchants' ships; and by the very exhibition of its force, deters all attempts to disturb "their mission of peace and brotherhood across the seas." Our official documents exhibit prodigious growth in trade and navigation; and every sea bears the evidences of our increasing maritime powers.

W A R.

In rapid succession, after the invention and use of gunpowder, various war facilities appeared. Among these were cannon, mortars, muskets, bullets, bombshells, and other materials and implements. At the siege of Algiers in 1304, the use of gunpowder first appeared. The crusades, which were outlets for a Roman spirit, martial if not barbarous in its tendencies, were attended by their peculiar influences. Provisions for outfits, with such conveyances and other needfuls as the red cross warriors required to reach the field of action, were supplied by the merchants. The palmers, or pilgrims, on their return, scattered knowledge of far-off customs, broke shackles of superstition; and, while turning attention to the religion of Christendom, gave vitality to its literature and trade.

The use of gunpowder, invented by a mind turned to Roman tenets, exhibited that a warlike spirit had almost overdone itself. Taste for torture, as well as conflict, had reached its climax. Combat was carried to excess. The most heroic warriors fell before a trembling touch given to the destroying engine. The veriest coward often conquered with ease. Ingenuity overreached genuine bravery. Chivalry, which had its flourishing period, had been designed to infuse humanity in war, to foster truth and justice, modify martial taste, and cherish that attention toward the female sex for which the Gothic race is so distinguished. Its influence operating with the humanizing teachings of Christianity, it diffused a spirit of comity which inspired Commerce and spread through our modern jurisprudence, making it so widely distinguished from ancient systems. But chivalry had also its evils: and among these were its fantastic notions of honor, and its neglect of mental culture for mere accomplishments of gallantry.

This military system was gradually modified by time. As matured and presented by our own patriotic heroes, it has won world-wide renown.

Our immortal general, a son of the "chivalrous South," was not less gallant than brave. Discountenancing any but defensive action, these sturdy patriots blended science with bravery; and wrought out victory in a manner as honorable to their humanity as to their fortitude and heroism.

Late statistics of the military force and resources of the several nations of Europe present a formidable warlike aggregate. But for all purposes of offensive and defensive warfare, they exhibit nothing surpassing the internal military strength of the United States. Many volunteer companies, scattered over the Union, subject to military rules and regulations, are duly equipped and almost fully disciplined. A fair proportion of artillery force and dragoons will also be observed. Military and naval schools, admirably established and conducted, are sustained by Congress in a liberal manner. The actual organized military force of the Federal Government, though not large, is adequate in efficiency. And, considering the total militia force of the Union, added to the fact of an inherent military spirit in the American, with an accustomed use of arms in field sports and target practice, a potent array of war facilities may be readily seen in our republic.

Prevailing philosophy in America wisely teaches doctrines averse to war; and the ruling policy encourages every pacific vocation. Human nature is, nevertheless, in all ages the same; and nations known to possess wealth are not permitted to enjoy prolonged repose. In time of peace prepare for war; as wars are, in the nature of things, inevitable. They are often in themselves purifying tempests to governments, and not unfrequently, when sanguinary and protracted, emaciating and radically destructive. Either luxury, more oppressive than the sword, assails a people, stirring up desires for conquest or internal commotions; or they become a prey to the race having cultivated courage and the art of war to a greater extent than themselves. Consideration and discipline for war are all-important.

As a power in war, navies become indispensable at an early period. Vast variations have come over these aspects within a few centuries. The flat-bottomed vessels of the Saxons, with wicker upper works and hide sails, have long been superseded by efficient ships and other craft. Radical changes have been wrought by science within the present century in the structure of sea vessels, and in modes of sea warfare. In the session of Parliament, 1841, the Duke of Wellington remarked, in the House of Lords, that he did not remember in all his experience, except the then recent instance on the coast of Syria, (siege of Acre,) of any fort being taken by ships, excepting two or three years before, when the fort of St. Jean d'Ulloa was captured by the French fleet. That was the single instance he recollected, though he believed that something of the sort had occurred at the siege of Havana in 1763. The proceeding under consideration had been altogether most skillful. Not less than 500 pieces of ordnance were directed against the walls, and the precision of firing so well kept up, the wise position of the vessels, and the explosion of the magazine, all aided in the speedy achievement of victory. It was one of the greatest deeds of modern times. The invention of ordnance and the application of steam to ships of war as a motive power, render it difficult to anticipate the verge to which naval military power may in the future extend.

The present warlike attitude in Europe gives scope to military science. England, France, Turkey, Russia, Austria, and Prussia, present us with

fields for varied operations. The policy of Russia is traditional. England, with possessions requiring watchfulness, finds herself allied with France, to whom a war is but vent for military ambition. Our own extensive intercourse facilitates edification in the art of war; and America derives benefits from remote experience. Already our Secretary of War has announced that important results among the remarkable incidents of battle indicate that material modifications will be made in the future armament of troops.

Naval experiments with new artillery have recently been made in England, in the presence of military and naval commanders, which practice has been described as good. During the past year the United States War Department ordered a substitute to take the place of the percussion lock on all muskets hereafter to be made at the public armories, and we thus see that the metallic cap, which was of itself an advance, is superseded by a still greater improvement.

HUNTING AND FISHING.

We read of nothing of hunting as a pursuit till the days of Nimrod, after the flood. Nomadic modes of life, with their wild and excited sports, were introduced subsequently to the pastoral; probably by men wearied with the daily and nightly watchings of the plain, or the monotonous labor of the field. In certain periods of history hunting has been in certain localities a common pursuit. The goddess of the chase,* reared by Mythology, was represented as a healthful-looking huntress of the woods, bearing a quiver of arrows and a bow. Joys of the chase are renowned in story and song. The dart added to security and comfort. The Saxon bow, with its toil of utility, was often taken in the path of pleasure. Thomas Cranmer, Archbishop of Canterbury, born 2d July, 1489, in his boyhood, "was put to learn his grammar of a rude parish clerk," and was permitted by his father to follow "the civil and gentlemanlike exercises" of the day, which consisted of diversions of hunting and hawking, and skill in the use of the bow. The hunt in Europe, though less common than formerly, may often be found and enjoyed. A letter before us speaks of the hunting lodge of the Duke of Nassau, located in a gorge of the mountain which overshadows the town of Wiesbaden, near the Rhine. Here the duke enjoys the pleasures of the chase amid extensive forests, in which deer abound. Similar facilities are possessed by others.

The bow, spear, club, and trap, together with the more modern inventions, have been called by traders into the channels of traffic. American hunters and Western riflemen (renowned for sharp-shooting in Mexico) find a charm about their pursuits which creates an attachment not easily relinquished. Inventions and contrivances have afforded facilities to this vocation, and it is connected with the wealth of large estates. Legislative enactments have regulated, and large companies engaged in it. It has been not only a road to opulence, but to enlarged geographical and scientific observation. "In surveying the widely-extended trade of the Northwest Company," says Haskel, August 2, 1820, "we perceive evidence of an energy and perseverance highly creditable to its members as men of business. They have explored the western wilds, and planted their establishments over a tract of country some thousands of miles in extent.

* Diana.

They have made the savages of the wilderness tributary to the comforts of civilized society." Science has facilitated the pursuits of hunting and fishing; and they, in their turn, have added to the light of science.

The fish of the Nile, the Mediterranean, with those of the Indian Ocean and the inland seas of Asia, are read of in history. An American writer, speaking of pleasure, says "There is fishing—the contemplative man's recreation. Read Walton and fish. Ye who are seeking for a cheap, quiet pleasure, betake yourself to a shady, retired nook, and pass a day in silence and reflection. It is an occupation full of wisdom." But fishing is susceptible of several views. The term fisherman awakens recollections of familiar history. Fishing is extensively resorted to as a recreation; considerable numbers pursue it in some one or other of its branches as a business. Regulating enactments apply to our river and bay fish; while certain international treaties pertain to the herring, mackerel, and cod fisheries. The latter came near involving the country, a short time ago, in conflict. Whale catching with Americans has long been a popular pursuit. Science has acquired many a trophy from our enterprising whalers. Their broadly extended skill and intrepidity in this branch of labor are attended by encomium and profitable rewards.

AGRICULTURE.

The narrative with which we are favored of the early history and settlement of the family of Adam, represents them as living together in one place, or diverging to separate localities in companies, and attending in general to agricultural and pastoral vocations.

Culture of the soil is of perpetual importance. The doctrine that agriculture constituted the best basis of the prosperity and happiness of a nation, was a valued principle of the Mosaic constitution. It was held in high esteem by many ancient nations. China, Egypt, Rome, are countries who valued most highly the plow. Before astronomical observations reached any great degree of accuracy, the ancient Greeks had to watch the rising of Arcturus, the Pleiades, and Orion, to mark their seasons, and to determine the proper time for their rural labors. At the rising of the star Sirius along with the sun, the Egyptians expected the overflowing of the Nile, at which event they were to sow their grain, or as sacred writ has it, "cast their bread upon the waters." They also then cut their canals and reservoirs, and prepared the way for their expected harvest.

Pressure of agricultural produce finds scope in trade. Calls of Commerce stimulate tillth. The farmer ceases to be isolated and exclusive; he tills his fields not for himself alone, but for others. Refuse lands are reclaimed. Swamps and forests are superseded by farms and gardens; and prolific produce seeks its way to manufactory and mart. Contributions from the soil become commodities of trade. Invention and ingenuity open avenues of traffic, and society arises as an arena of mutual exchange.

Agriculture, at the time of the conquest, was in an extremely low condition in England. A gradual improvement continued with the advance of Commerce. Tillage became less imperfect; implements of husbandry less rude. The roots that now smoke on our tables, cabbages, carrots, potatoes, were then unknown. Wheat bread was rarely used—the common kinds being made of rye, barley, or peas. Subsequently, continents were brought under contribution, and agricultural science has advanced at

a rapid rate. Professed chemists, such as Liebig, Johnston, Draper, Chilton, and others, have analyzed soils and plants. Entomologists have discovered the nature of destructive insects; and ornithologists the auxiliaries in their destruction. It is becoming well understood that agriculture is a science as well as an art. "Its successful cultivation is intimately allied with the most profound investigations of philosophy and the most elaborate exertions of the human mind." The broad expanse of our own country, with its practical farmers, its agricultural societies and institutions, exhibits an active prosecution of the theory and practice of this leading pursuit.

MINING.

This branch of labor arose in the rude search for gems and golden grains. The amethyst of India and the turquoise of Turkey have been of interest to trade; the same may also be said of many other gems, as the opal of Hungary and the emerald of Sweden. Diamonds of Pastael, twenty miles from Golconda, at the foot of the Gate Mountains, have been in great request. The valuable gold mines of California brought that region into immediate notice.

Of more or less consequence to Commerce have been the flints of France and the copper of Siberia; the pumice of Lipari; the emery of Naxos, and the gypsum of Nova Scotia. In the department of Aude, in France, twelve hundred persons were at one time employed in fabricating the jet found there into buttons, ear-rings, bracelets, etc. The amber pits of Prussia, the explorations of which, exceed one hundred feet in depth, are said to have afforded a revenue of twenty-six hundred dollars annually to the head of the government. The salt mines near Cracow have been wrought since 1251. At the bottom of these mines, in some places one thousand feet, a commonwealth of families reside, having their convenient dwellings, carriages, and avenues, their peculiar manners, amusements, and polity.

In 1307, coals were first used in England. Great Britain is probably more indebted for her national aggrandizement to her mineral wealth than to many other causes combined. Without her coal, her metallic ores could never have been drawn from the depths of the earth where they were concealed; or if near the surface they could never have been profitably refined. Without her coal, her Birmingham, her Sheffield, her Manchester, and other manufacturing towns would never have existed. Without her manufactures her Commerce would be prostrated. At the present time (1855) the coal areas in the British Islands cover 12,000 square miles, with an annual produce of 37,000,000 tons; France, 2,000 miles, annual produce, 4,150,000 tons; United States, 113,000 miles, annual produce, 6,000,000 tons.

Improvements in tools, the use of hydraulic machines, and the steam-engine, have aided vastly in distributing mineral treasures among the nations. The connective sciences of geology and mineralogy have been industriously pursued. A grand source of individual and general prosperity is the development of the natural resources of the country.

MANUFACTURES.

The raw material of the earth, whether it be vegetation of the earth or the ore of the mine, passes through processes of change. Fabrics appear to suit the calls of need and of fancy. Implements are brought forth at

the demands of emergency and necessity. Manufacturing attendants upon trade add vastly to home comforts, fireside and social conveniences.

Intercourse is of vast benefit to manufactures. Roger Guiscard, in 1146, brought home from Greece certain captives, who taught at Palermo the art of rearing the silk-worm and weaving silk. In 1331, the art of weaving cloth was introduced in England, and in 1386 linen weavers appear. In 1530, the spinning-wheel was invented; in 1590, the art of weaving hose: all followed by a variety of valuable inventions and discoveries in the manufacturing domains of labor. By aid of machinery, first used in England within a century, that country has largely pursued manufacturing branches, and, not deterred by local differences in the value of labor, their cotton and woolen goods float upon almost every sea of the world.

The advances of science are due neither to associations of ingenious men, nor to philosophical societies, though these have their uses, but to the labors of individuals working by themselves. "What a man earns by thought, study, and care, is as much his own," says Webster, "as what he obtains by his hands." Hence, Congress is authorized to secure to each inventor the enjoyment of his invention as his own property. He has an original, inherent right in it as a personal earning—an acquisition it is by the paramount right of nature. So far as the people of our Republic present their abilities at invention, (as at the exhibitions of England and France,) they display, in preponderating phase, a practical tendency of mind. They do not tarry to embellish and adorn, nor seek to sacrifice utility to elegance. In the machinery and inventive departments they exhibit most genius and capacity. Without seeking to excite artificial desires, they present their object, having for its aim creation and usefulness.

ART. II.—THE HARTSTEIN ARCTIC RELIEF EXPEDITION.

THIS expedition was fitted out by the government of the United States for the search and rescue of Doctor Kane and his brave little company of seventeen young men, who sailed in the Grinnell brig *Advance*, of 144 tons, from New York, on the 31st of May, 1853, for the Polar seas, in search of Sir John Franklin. The long absence of Dr. Kane, with the knowledge of the sad fate of Sir John Franklin, created so painful a sensation in the public mind, that Congress made an appropriation of one hundred and fifty thousand dollars at their last session to cover the cost of sending two vessels for the search and rescue of the ice-bound expedition.

The bark *Release*, of 330 tons, Lieut. H. J. Hartstein commanding, and propeller *Arctic*, of 250 tons, Lieut. C. C. Simms, with a company of 49 volunteers, all told, sailed from Sandy Hook on the 4th day of June last. On the 5th July the expedition reached Leivelly, in latitude about 69° N., longitude 54° 45' W., where they remained until the 9th. From thence they proceeded to Haroe Island, where they obtained bituminous coal from the mines. On the 16th they were off Upper Navick, the most northern Danish settlement on the coast of Greenland, latitude about 73° N., longitude about 56° W. On the 29th ice made half an inch thick, temperature on board the vessel, 31°. On the 9th of August Cape Melville, in

latitude about 76° , longitude about 64° , was distant about 30 miles. On the 16th they were off Cape Alexander; and on the 17th reached latitude $78^{\circ} 21' 34''$ N., longitude $72^{\circ} 37'$ W., the highest northing made, and were then within a few miles of Dr. Kane's vessel, the *Advance*, which was frozen in on the 10th of September, 1853, in latitude $78^{\circ} 45'$ N.

In my appeal to the public in behalf of Dr. Kane and his companions, published in the New York papers of the 6th of December, 1854, I said: "He has doubtless proceeded from Cape Alexander north, without going south and west;" and so it has proved. Lieut. Hartstein on the 17th landed on Littleton Island, and from thence on the same day proceeded to Erene Bay, where he landed and found a settlement of Esquimaux, numbering about thirty, who were living in tents made of the sails of Dr. Kane's vessel.

From them he learned that Dr. Kane and his party had been there about two months previous, and had gone south in boats. From here Lieut. Hartstein proceeded south and west, and on the 29th landed on the shores of Possession Bay, the west shore of Baffin's, in latitude about $73^{\circ} 30'$ N., longitude about 77° W. After going south a little way, they crossed Baffin's Bay, and on the 12th of September were in sight of the western coast of Greenland, and on the 13th, in re-entering the harbor of Leivelly, discovered a Danish brig, which, immediately on seeing them, hoisted the American flag, which Lieut. Hartstein supposed was done as a compliment to the expedition; but in a few moments after, two whale boats put off from Leivelly with the Pot Rock flag hoisted, having the cherished name of Henry Grinnell upon it, and shortly after Dr. Kane came on board.

He and his party had made the tour from Erene Bay, over the ice and through the water, to Upper Navick, and there found the Danish brig, in which they had taken passage for Europe, and on their way stopped at Leivelly, where they providentially met Lieut. Hartstein. On the 18th of September the expedition left Leivelly, the Arctic having the bark *Release* and Danish brig in tow; and on the 11th of October—twenty-three days—reached Sandy Hook, having been absent only four months and eleven days, and most successfully and most fully accomplished the object of the expedition.

The government of the United States has done itself high honor in sending forth the relief expedition, and Lieut. Hartstein has won for himself an imperishable fame in so promptly volunteering in this humane service, and conducting it with such great skill and good seamanship as to make it eminently successful.

I have been kindly furnished with a journal of the entire cruise of the Hartstein expedition—embracing observations upon the temperature of the atmosphere, temperature of the water, markings of the barometer, course and force of the wind, state of the weather, condition of the ice, latitudes and longitudes, variations of the needle, bearings of the land, &c., made and recorded every four hours, night and day.

As I record the temperature of the atmosphere every sixty minutes, night and day, at my place of observation on Brooklyn Heights, and have continued these observations for a series of years, I have the accurate means of comparison with the records of observation by the Hartstein expedition simultaneously made. I have likewise the original records of observations made hourly for me by Lieut. De Haven during his cruise in

the Arctic seas in 1850 and 1851, also for comparison. In addition to these, I keep a record of the drift of Arctic ice reported by vessels crossing the Atlantic, and this record covers fifteen consecutive years, viz., from 1841 to 1855, inclusive.

These records, together with those recently obtained from Sir Edward Belcher, commander of the British Arctic Expedition, who was in the Arctic zone nearly three years, ending with the autumn of 1854, illustrate the extraordinary, and until now undiscovered fact, that the more intense the Arctic cold, the greater the flow of the Arctic ice. They also illustrate and show that in summer, heated terms here are cold terms in the Arctic, and *vice versa*. The same holds good in comparing the winter temperatures of both places of observation.

This comparison has also been extended to the observations made by Lieut. Parry during near a year's sojourn at Melville Island, north of latitude 75° and west of the line of no variation, in 1819 and 1820, and those of Capt. Franklin and Dr. Richardson, on the continent bordering the Polar Sea east of Copper Mine River, longitude 117° W., in 1821 and 1822, and near the mouth of M'Kenzie's, in longitude about 137° W., in 1824 and 1825, all with the same results.

Neither Lieut. Hartstein nor Lieut. De Haven observed any lightning, or heard thunder, while in the Arctic zone; nor do I find any mention of that phenomenon by any Arctic navigator within that limit. Earthquakes have not been observed there; I have never found that phenomenon noticed in any account which has been published by Arctic navigators. If they occur at all, the occurrence must therefore be very rare. High winds and storms, however, prevail within the Arctic zone.

The lowest temperature recorded by Lieut. Hartstein during his cruise, was 26° on the 9th of August, in latitude about 76° . This was the temperature on board the Arctic; on the ice beyond the heat of the vessel, it was doubtless several degrees lower. Lieut. De Haven in 1850, in the same vicinity, observed the same degree of temperature on the 13th of August, and the lowest in that month.

When Lieut. Hartstein was entering the harbor of Leivelly on the 5th of July, a snow storm of several hours prevailed; and next day, at four P. M., the temperature rose to 76° , and at four o'clock next morning had fallen to 28° —a change of forty-eight degrees in twelve hours. Seventy-six degrees is a very high temperature for that latitude, and we think it is probable that the sun's rays may have fallen on the bulb of the thermometer. There is, however, one fact to be stated in connection with this high temperature—and that is, that it occurred within two hours of the termination of the heated term here, which commenced on the 25th of June and lasted till the 6th of July—duration twelve days—during which the temperature here rose to 98° . The heat passed like the shadow of an eclipse, from the temperate to the frigid zone.

The aurora borealis was seen but twice during the cruise, viz., on the 11th of September, in latitude about $69^{\circ} 30'$ N., longitude about 61° W., and again on the 4th of October, in latitude $42^{\circ} 34'$ N., longitude $62^{\circ} 46'$ W.; and on the evening of the 4th, sheet lightning was seen to the south simultaneously with that aurora.

At my place of observation there was a heavy dew on the morning of the 11th of September. At midnight the temperature was *in equilibria*, and continued in that state for seven consecutive hours, after which the

temperature rose to 90° in the shade and 120° in the sun, and remained at that for upwards of three hours. The evening of the 10th and of the 12th there was much lightning. A large meteor was seen from Valley Forge, Pennsylvania, on the evening of the 11th. A most terrific thunder storm visited Norfolk, Virginia, that evening, and the next day the yellow fever was greatly increased. A great thunder storm also visited Turk's Island. The ship Cowper the same day, in latitude 38° N., longitude 55° W., was struck by lightning. In the evening of the 12th there was a thunder storm at Manchester, New Hampshire, and also at the Island of St. Lucia, West Indies. Thus much for the connection of the aurora of the 11th September.

On the 4th of October, when the second aurora was noticed from on board the vessels of the expedition, the aurora was also seen here, and was very brilliant. Two American ships in two different docks in Liverpool, England, on that day were struck by lightning and injured. A snow storm prevailed for nearly an hour at Nebraska City and the surrounding country. The morning of the day previous there was lightning at my place of observation, and the day following a severe snow storm visited St. Louis, Missouri; Milwaukee, Wisconsin; and also Fort Laramie. Thus much for the connection of the aurora borealis of the 4th of October.

Aurora Borealis was visible here on the 8th and 15th of August, and in the vicinity of the Gulf of the St. Lawrence on the 11th of that month, and meteors were abundant from 9th to 14th, inclusive. The great volcano of Mauna Loa, Sandwich Islands, was convulsed on nights of 8th, 11th, and 15th of that month, but neither the light of the volcano nor the aurora were seen by the Arctic Expedition, which was then north of latitude 75°, for the reason that at that time the sun shone there throughout the twenty-four hours, but they encountered a snow storm on the 9th, and fogs on the 9th, 10th, and 11th.

The extraordinary aurora borealis of 19th and 20th of February, 1852, which was visible during the entire night both in the United States and England, and seen in many parts of Europe, was simultaneous with a great thunder storm in France, and with a most extraordinary eruption of the volcano Mauna Loa. Sir Edward Belcher was at that time north of the Arctic magnetic pole; in one of his letters to me he says the aurora was not observed there.

These facts are interesting, and unite with our other records in bearing testimony to the fact that the great changes in our atmosphere are from the earth itself, in its action upon that atmosphere.

It would swell this communication to a great length were I to treat in detail of the atmospheric changes in the Arctic as compared with the changes here. I will therefore pass over them, and come directly to an interesting matter mentioned in Dr. Kane's brief account of his expedition within the Arctic zone, after his vessel had been frozen up. His vessel was frozen up in latitude 78° 45', longitude about 72° west. He proceeded north from that to the parallel of 82° 30', where he discovered an open sea, that was free from ice as far as the eye could reach. The temperatures he recorded give no evidence that there exists a milder climate farther north. This open water, therefore, must, it seems to me, owe its fluidity to its great depth, or its holding so much salt in solution as to enable it to resist frost. The Cayuga and Seneca Lakes in this State were free from ice during the intense cold of February, 1855, which was as low

as 30° or more below zero in that vicinity. This exemption from frost is owing to the great depth of the water of these lakes.

The Dead Sea would remain fluid in the lowest temperatures of the Arctic atmosphere, and the same exemption from frost pertains to the great American Salt Lake in Utah. The cold atmosphere of the Arctic forces the salt held by the sea water in solution to density in fluidity that will resist frost; hence, pools of salt water are found on the ice within the Arctic zone during the most intense cold, but as soon as the weather becomes mild, that dense salt water seizes upon the ice it has been driven from by the cold, and melts it as rapidly as that operation could be performed by red-hot iron.

In our ordinary winter atmosphere in this latitude, salt is advantageously used to dissolve ice in pumps that have been frozen up, and for clearing sidewalks of ice.

It is difficult to form an opinion of the extreme north from what comes under our observation here. When Lieut. Parry was at Melville Island in 1819-20, he says that during their walks on shore a mass of rock, apparently half a mile distant, could be taken up in one minute's walk, and the frequency of the deception did not lessen its effects. Sound, during a still, cold atmosphere, was so powerful that common conversation could be heard at the distance of a mile. Thus it is seen, that neither sight nor hearing, in the cold Arctic atmosphere, performs the same services in its results as here.

Sir Edward Belcher, in surveying Prince Alfred's Bay, found, when he came to lay down his angles, he was obliged to diminish the Bay so immensely as showed the delusion.

This occurred in latitude 75° to 77° north; beyond that, and on the very verge of northerness, who can tell what greater differences may exist?

In reference to differences of temperatures, our own records of observation are full of instruction. For example: On the 7th day of February of the present year, the temperature at our place of observation, Brooklyn Heights, fell to 6° below zero; at Randolph, Vermont, to 44° below that line. The difference in latitude between the two places is about two degrees, and the difference in temperature thirty-eight degrees. Both are in about the same longitude. Between Randolph, Vermont, and Clarkesville, Tennessee, the difference was 99 degrees of temperature. Clarkesville is in latitude about $36^{\circ} 30' N.$, and Randolph about $44^{\circ} N.$ The temperature at Clarkesville was 55 degrees above zero. The difference between Clarkesville and Randolph is about the same in degrees of latitude as between Dr. Kane's extreme *northing* and the parallel where theory fixes the verge of *northerness*.

There are high mountains north of 75° north latitude; but I find no accounts of volcanoes north of 70° , east of Behring's Straits.

From what is here stated, we need not be surprised at anything that may be found in the far, far North.

Lieut. De Haven, on the 22d of September, 1850, in latitude about 76° north, longitude about 94° west, saw open water, or a water sky, which he supposed to be an open sea to the west of the position in which his vessels then were.

The unseen cannot be judged of from what is seen. A person approaching the mouth of the Niagara River from the placid waters of Lake On-

tario, would not, from anything there visible, suppose he was within 18 miles of the greatest cataract known on our earth; and so with respect to the channel of Hurl Gate, a person approaching that great ocean gorge from New York would never, coming within half a mile of it, suppose, from anything there visible, that he was thus near such a dangerous pass.

The expedition has furnished me with a variety of geological specimens. The first in order is bituminous coal from Haroe Island, latitude $70^{\circ} 25'$ north, longitude $54^{\circ} 45'$ west. This coal is of an excellent quality, and contains a great number of small pieces of crystalized naptha. It crops out in the edge of a hill a few feet from the shore in a stratum of from four to five feet in thickness. It is a few feet above the level of the sea, and is very accessible. Disco Island, near by Haroe, has also an abundance of the same kind of coal. Captain Inglefield visited these coal mines in 1852, and states in his public report that a thousand tons could be mined there in a short time. The following is the English analysis of the coal:

Specific gravity.....	1.3848
Volatile.....	50.06
Coke, common.....	9.84
Fixed carbon	39.56

A vessel can reach the coal mines from here in a run of from 20 to 30 days.

Captain McClure found bituminous coal in latitude 75° and 76° north, and longitude about 120° to 122° west. Lieut. Parry, in 1819 and 1820, found pieces of bituminous coal on Melville Island, latitude 75° north, longitude 111° west, and the captain of a whaler, who entered Behring's Straits with Captain Collinson in 1851, informs me that there is both bituminous and anthracite coal on the western shores of the polar seas.

Captain McClure found smoking hillocks on his way from Behring's Straits to the Bay of Mercy, and Sir Edward Belcher, in 1853, ascended a mountain that overlooks Wellington Channel, which he named Pitch Mount, from its stones giving out the odor of naptha, and when the temperature in the month of May rose to 35° in the shade, such portions of the mountain as the sun shone upon became soft and sticky, and he remarked that he left it because it seemed to be in a semi-fluid state. This mount must be as far north as 76° or 77° . In one of Sir Edward's letters to me, he remarks that there is no petroleum found there. That fluid, on coming near the surface, would crystalize in the Arctic atmosphere.

It has been supposed by some that the Arctic coal was newly formed, and they imagine they could see the grains of the wood in it. They should bear in mind that the Arctic regions have probably been bare of wood since the deluge, about 4,000 years ago, hence there was no wood to produce this "recent formation," as it is termed. Coal is there, as is the case everywhere, a mineral crystalization, and has no more connection than water has in cases where wood becomes imbedded in ice.

At Erene Bay a rounded metallic nodule of great hardness and of great specific gravity was obtained from the Esquimaux. They use it as a substitute for steel in striking fire with quartz rock. It breaks with a bright fracture, and is a compound of sulphur and iron. The natives value it very highly. It is said to be plenty on the shores of Whale Sound.

From Cape Alexander they obtained sandstone of a very delicate white, and from Haykhuyt Island conglomerate or pudding stone, in which quartz pebbles predominate. From the shores of Possession Bay, agates and

jasper were obtained; also quartz and other pebbles. I have also other specimens from further north, which I have not yet had time to examine.

Among the botanical specimens are grasses, moss, and a dwarf willow. Perhaps I may succeed in obtaining some good seed from the grass, and the willow is still alive, and I think it is in a condition to grow in this climate.

The Arctic Zone once had a climate different from that which now exists there, but that time was probably anterior to the deluge.

The public mind sets in a strong and broad current against any more Arctic Expeditions, but the time will come when other expeditions will be undertaken, and I have no doubt the Arctic zone will be found to be rich in its mineral wealth. The great hardships that have been endured in the polar regions is the cause of this feeling or panic, but the suffering has been owing to a want of suitable accommodations. Such buildings as are in use in our climate, with plenty of fuel and a good stock of provisions, there is no difficulty in living in the Arctic climate, but when a great number of persons are huddled together in the cabin of a small vessel, it is impossible to be comfortable or healthy. Then, again, persons who live in cold climates should wear warm *loose clothing*. Sir Edward Belcher, in a letter I recently received from him, says:—"Your observation on the clothing in cold climates are very correct, and acting on the same principle, or simply to have light air-proof externals, with *loose* woolen material between it and the skin, I found the same clothing I donned at the Orkneys in *May* served me even in the severest cold, $63^{\circ} 5'$ below zero, and until my return to this country, excepting only when traveling, when it was merely changed for a still more air as well as water proof material—*seal skin*."

In another letter he says:—"It is the confined atmosphere of winter between decks which is so much to be dreaded. This may be avoided if Arctic vessels are so fitted as to afford adequate height for the escape of the breath before it becomes so suddenly condensed as to constitute a warm internal infection of mixed breath and cold air, which attacks the lungs in the last stages of scurvy as dropsical. I succeeded in the winter of 1853-54 in proving how much remains to be done in order to perfect such fittings."

Arctic dwellings should have deep cellars. A cellar as deep as some of the sub-cellars in New York would be but little affected by Arctic cold.

Nothing further is at present looked for from the Arctic except accounts from Hudson Bay of the search ordered for the discovery of the remains of Sir John Franklin, or the party of near forty persons who were seen in the spring of 1850, coming south over the ice dragging a boat after them, by some Esquimaux sealing on the north side of King William's Land, and who, it is said, subsequently perished by starvation. These accounts may now be expected daily.

E. M.

BROOKLYN HEIGHTS, November 6, 1855.

Art. III.—COMMERCIAL AND INDUSTRIAL CITIES OF EUROPE.**NUMBER XIV.****THE CITY OF GLASGOW, SCOTLAND:****ITS COMMERCE WITH THE UNITED STATES, ETC.**

THE intimate and advancing commercial relations existing between the port and city of Glasgow and the United States, it is hoped may serve to render a brief glance at some items of the history of that city, its geographical position, manufacturing interests, and American trade, not uninteresting to the readers of an American commercial magazine. Several years' residence there in an official capacity, connecting him with the Commerce of this country, has given the writer some facilities for such a review, and enlisted his sympathies in that trade and for the people of that city. Circumstances have delayed this publication so long, that the statistics that follow may want that freshness and pertinency they would heretofore have had. The hope, however, that this beginning may stimulate some other and abler hand to bring up the record for the intervening time, and that thus it may prove useful to his countrymen engaged in the Scotch trade, animates him to proceed.

Glasgow is one of the most ancient cities of Scotland. History informs us that its site once formed part of a Roman province, though it does not appear then to have been a distinguished station. A bishopric and church was established there as early as 560 of the Christian era. It is pleasantly situated near the western coast of Scotland, on both banks of the River Clyde, which divides it unequally about forty-five miles above the firth, or bay, of the same name, in 55 degrees 52 minutes of north latitude, and 4 degrees 16 minutes west longitude. The river flows to the west about fifteen miles, where it expands into the firth, which, running northwesterly in its general course, empties into the Irish Channel. Originally it was, like most other British cities of early times, walled and fortified for defense against invasion, and protection from semi-barbarous neighbors. The people were crowded together in lofty houses, having very little open space, and with confined and narrow streets. The buildings of both the old and modern parts of the city, with very few exceptions, are formed of a soft freestone—quarried in the immediate neighborhood—of a light and handsome color, but the dampness of the climate, acting with the smoky atmosphere caused by the universal use of bituminous coal, soon darkens the external walls and gives them a somber and dingy hue. The peculiar Scotch style of building—that of making each story a separate tenement—formerly encouraged the multiplication of *flats*, as the separate stories are called. Security having been a greater object than comfort, the prevailing policy was to huddle the population into as small compass as possible. That policy has been very much modified and improved in the new portions of the town.

In 1165 the city was erected into a royal borough, and in 1451 the Pope, then head of all the western churches, authorized the establishment of a college, which was the foundation of the present celebrated University of Glasgow.

The repeated invasions of Scotland by the English in early times, ex-

tending nearly to the union of the two countries under one government by the succession of James VI. to the English crown; the frequent collisions of rival clans, and the contests of the Reformation, rendered for ages almost the whole country a battle-field; and the Commerce and growth of Glasgow was insignificant until within the last two centuries. Among the armed conflicts in that city, the battle of Glasgow, five centuries ago, by which the invading forces of Edward I. of England were driven out and subdued by the brave Sir William Wallace and his clansmen, is one that Scottish bards and historians have sung and recorded with the highest rapture.

The discovery and colonization of the West India islands and the continent of America opened a new field to Commerce. The situation of Glasgow, its contiguity to the Atlantic, and the enterprise of its citizens, gave it the lead, and it has always been the principal mart of that trade in Scotland. But in the prosecution of a maritime trade she had obstacles to overcome that would have been insurmountable to a people whose energies had been less persevering and indomitable. The river proper was narrow and shoal quite to the firth, and the head of that for several miles more or less obstructed. Although the high tides of the British seas swell the volume of the river to the rapids above the city, yet before its enlargement by modern improvements, only the smallest coasting vessels could ascend to it, and such only on flood-tides. Indeed so shoal was the river until within half a century, that at ebb-tides schoolboys forded it at pleasure where now is a harbor capable of floating ships drawing twenty feet. Persons now living in no very advanced age have assured the writer of having done so in their youth.

Greenock, some twenty miles below, on the firth, was then considered the head of navigation for sea-going ships. That is also an ancient town, and from early times has been engaged in foreign trade; but with all its natural advantages numbers now but about 50,000 inhabitants—less than one-seventh that of Glasgow. Merchants of the latter place, then engaging in foreign trade were compelled to lade and unlade their cargoes at Greenock, subject to transhipment and transit to their own warehouses at home. Desiring to have their Commerce more fully under their own control, the citizens of Glasgow, through their municipal authorities, set about establishing a harbor that should be accessible to heavy ships, and governed by themselves.

In the selection of a point for the location of the new harbor, the choice first fell on the small but ancient borough of Dumbarton, five miles above Greenock, on the opposite shore, at the estuary of the Leven Water, the outlet of Loch Lomond. This town, lying directly at the base of the craig whose summit is crowned by the castle of the same name, so famous in ancient warfare, being one of the few places in Scotland that by a provision in the union with England is forever to remain a fortified post, has a good natural harbor, with a sufficient depth of water. The good people of this borough, after gravely considering the proposition of their neighbors, sagely declined the offer of improving their harbor and using it for the Glasgow trade, because it would be apt to induce a large increase of population, and thus raise the prices of provisions, already—as they argued—sufficiently high. Thus baffled, the Glasgowians chose the seat of an old titled family nearly opposite, improved and regulated its harbor, erected wharves, dry docks, and other conveniences, and gave it the name

of Port Glasgow. The occupation of this port for their trade commenced in 1662. For nearly 150 years it remained the harbor and port of the Glasgow marine.

As Commerce increased, the inconveniences of a distant harbor were more and more felt and appreciated. At length, measures were matured and plans adopted for clearing out and improving the whole bed of the river from Glasgow to the firth, for removing obstructions in the channel of the latter, and erecting barriers, buoys, lighthouses, and all the necessary requirements of navigation. To carry out these objects efficiently, proper acts of Parliament were obtained. The municipal government was invested with authority to make the contemplated improvements, on account and at the expense of the city; to levy taxes and borrow money to provide for the expenditures; and to collect transit duties on all vessels ascending the river, to supply the means for paying interest, continuing the improvements, and reimbursing the loans. This important work, denominated the "Clyde Navigation Trust," is managed by a board of trustees from the City Council, whose decisions are subjected to the approval of that body.

One of the city magistrates is especially assigned to the duty of trying and adjudging all causes arising on the waters under the jurisdiction of this board. The work has been prosecuted now for many years by dredging machines to deepen, and excavations to straighten the channel, and give it broader width. Year by year it has progressed, until the river has become an immense canal, free from locks and obstructions, capable in flood-tides of floating vessels of twenty feet draught, quite to the Broomielaw, or lower bridge, in the city of Glasgow. Above that bridge the river remains in its original condition, shoal, and navigable only for boats. The work of improvement is still progressing, and every year the capacity of the river is more or less enlarged by increasing its depth, cutting off projecting points, and enlarging its width.

In addition to improving the navigation, the trust embraces the erection of wharves, of sheds for protection in loading and discharging cargoes, and all the modern labor-saving fixtures for facilitating such business. The wharves are chiefly of stone, substantially and permanently built. For the use of these improvements a tariff of charges is established on all vessels arriving and on all articles laden and unladen. The wharfage on merchandise is small in detail, but produces a large sum on the whole trade of the port.

These charges vary from one to two pennies on each package, and on each ton of heavy goods. From a small beginning, the income of the trust has been annually advancing, until, from all sources, in 1852 it exceeded £600,000 sterling. It is estimated that ultimately it will provide for paying off the debt of the trust, and become a source of revenue for general purposes.

The removal, by these improvements, of business from Port Glasgow has left that place dull and declining, with a stationary population of about 10,000. The colonial timber trade of Glasgow is nearly all that remains to it. A large proportion of its present inhabitants are hand weavers. It has a few pleasant residences for gentlemen doing business in the city.

The regular increase of population being one of the highest evidences of prosperity and advancement, the following table, collated from the na-

tional census for the several years referred to, is given to exhibit the popular growth of the city:—

1801.	1811.	1821.	1831.	1841.	1851.
83,769	110,460	147,043	202,426	282,134	353,951

The chief elements of the Commerce which Glasgow gathers and distributes are the manufactures of Scotland. For these she is the great and principal depot. The iron trade almost all centers in it. The iron of the country, in its different forms, is principally shipped from this port direct to foreign countries, or sent coastwise to Liverpool and other ports for transshipment or a market.

A few small ports, Ardrossan, Troon, and Irvine, on the west coast, and Leith and Grangemouth, on the east, ship comparatively small quantities. Next to the landed, the iron manufacture is the most important interest in Great Britain. No part of the realm enjoys better facilities for producing this staple, cheap and in abundance, than Scotland. Her ores, her coal, her lime, and all other materials for smelting it, are usually found in the same fields. The supply of these materials is probably inexhaustible, at least for generations to come. The contiguity of navigable waters, and the general extension of railways, cheapen transport charges to the most moderate rates.

Manufactures of cotton, flax, and wool, being so much lighter of movement, find their way in greater proportion, direct from the workshops, by railway to Liverpool and other English ports, for export. Notwithstanding, the direct shipments of these fabrications from Glasgow is very large and highly valuable.

Ship-building has grown to be a leading interest on the Clyde. More iron ships are annually built, equipped, and launched, from Glasgow to Greenock, inclusive, than from any other place in the commercial world. The number on the stocks in progress generally exceeds twenty, and many of these, steamers and ships of the first class. At the same time a large number of wooden vessels—some of these, also, of first class—are constantly produced. Here all the fine and powerful steamers of the Cunard line, so triumphantly successful, and here many of the best ships and steamers in the British merchant marine, have been built and equipped.

Chemicals, for use in the manufacturing arts, constitute an important department in the manufactures of the city and its vicinity. These productions being generally heavy, are, like iron, chiefly shipped from home. Coal raised in the immediate neighborhood, and in other portions of the western part of Scotland, where it abounds, is exported from this port in large quantities.

The number of mills and factories in operation in the city, for different kinds of manufacture, exceeds one hundred—all, or nearly all, operated by steam. The only fuel in use is the bituminous coal of the country already mentioned. The dense smoke discharged from this agent is justly deemed a great nuisance, and many experiments have been made to discover a means to consume it, as yet with very little success. All these erections have lofty chimneys for raising it to a great height, but its density causes it to settle and unite with the smoke of the less towering structures of the city, and the atmosphere is constantly surcharged more or less with its impurities, but is not believed to be rendered unhealthy.

It may not be uninteresting, in passing, to remark briefly on the exten-

sive chemical works of the Messrs. Tennent, covering one of the heights of the city, doubtless the largest of the kind in the world. They occupy some fifty acres of ground, and turn out a variety of articles in large quantities. Among the multitude of erections composing the works, the great chimney, believed to be the highest ever built, is a curious and conspicuous land-mark—the first seen in approaching Glasgow from any quarter. Before its erection, certain gases discharged from the works were found to be noxious to surrounding vegetation, and a nuisance to the people residing near. The municipal authorities were appealed to for redress. They ordered the offensive works to be removed, or a chimney raised so high as to carry the obnoxious vapors beyond the city. The latter alternative was chosen and the chimney erected. It is circular, 50 feet diameter at the base, rises conically 460 feet high to a diameter of 6 feet at the top. Three millions of bricks, and about thirty tons of iron for bands and supports, were employed in its construction, and a cost of £10,000 sterling incurred.

But to return to the subject of iron. The many furnaces and iron works in the vicinity of the city and in the adjacent neighborhood roll up their constant columns of smoke and flame, like the pillar of cloud and of fire of old, obscuring the heavens by day, but lighting up the horizon by a resplendent and far-reaching illumination by night, significantly indicating a path to individual and national prosperity. It is well known that the crude metal, in pigs, is the staple of that manufacture in Scotland. Glasgow being, as already stated, the great depot for the country, the general statistics that follow, it is hoped, may not be thought irrelevant to the purpose in hand:—

THE FOLLOWING TABLE EXHIBITS THE PROGRESSIVE INCREASE OF THE MANUFACTURE, AS INDICATED BY THE NUMBER OF FURNACES IN OPERATION IN SCOTLAND, AT DIFFERENT PERIODS FROM 1788 TO 1845.

	1788.	1806.	1823.	1830.	1845.
Number of furnaces.....	8	17	22	27	95

Large as the increase apparently was during the fifty-seven years here represented, the actual results will be found to have been much greater, when we consider the well-established fact, that by the lights of experience and the developments of skill, the average quantity produced by a single furnace per annum, rose, from 1796 to 1840, to more than three-fold. The following will illustrate this:—

ESTIMATED ANNUAL PRODUCTION OF PIG-IRON PER FURNACE AT THE PERIODS STATED.

	1796.	1827.	1840.
Tons.....	1,033	2,429	3,473

The authority from which these estimates are drawn asserts that the yearly production had risen in 1849 to 6,100 tons for each furnace, being an advance of nearly 100 per cent in nine years, and of about 500 per cent since 1796. Statistics hereafter given corroborate the fact that this is now only an ordinary yield.

This progressive and enormous increase should no doubt, in some measure, be referred to the introduction of the hot blast in smelting, and to a general enlargement of capacity in the construction of furnaces. Yet,

after every possible allowance of this nature, it will be found that the ratio of production from the raw material, during little over half a century, has been wonderfully augmented, and the cost of production vastly reduced. But to proceed; the following table exhibits the number of furnaces in Scotland, erected and in blast, for the eight years ending December 31st, 1852:—

	Furnaces.			Furnaces.	
	Erected.	In blast.		Erected.	In blast.
December, 1845.....	109	94	December, 1849.....	143	113
" 1846.....	125	97	" 1850.....	143	105
" 1847.....	130	89	" 1851.....	143	114
" 1848.....	140	103	" 1852.....	144	113

The following table exhibits the total production of pig-iron in tons for the same years, together with the direct and coastwise shipments, and the market prices in December of each year:—

	Production.	Shipments.	Price.
December, 1845.....	500,000	.....	£3 16 0
" 1846.....	580,000	376,000	3 15 0
" 1847.....	540,000	370,000	2 6 6
" 1848.....	690,000	395,000	2 3 0
" 1849.....	692,000	374,000	2 7 6
" 1850.....	630,000	325,000	2 5 0
" 1851.....	775,000	450,000	1 17 6
" 1852.....	780,000	424,000	3 12 6

Competent merchants estimated that in the latter year 210,000 tons shipped was exported, and 214,000 tons sent coastwise, and that of the exports 100,000 tons were shipped to the United States.

The production of malleable iron in Scotland is comparatively much less than in several districts of England and Wales, and bears no corresponding proportion to the pig-iron produced. In 1852, the number of malleable iron works had risen to 11, which employed 120,000 tons pig-iron, and produced 90,000 tons of rails, bars, ship and boiler plates, sheets, &c. The increase of production of these descriptions of iron will be found to have been rapid during the last few years, as the following statistics will show:—

TABLE OF ESTIMATES OF MALLEABLE IRON PRODUCED DURING THE YEARS STATED.

1845.....tons	35,000	1849.....tons	80,000
1847.....	60,000	1852.....	90,000

A much larger proportion of these irons find their way into the markets of the United States than of pigs, but in the absence of authentic data the quantity cannot be conclusively stated. Considering, however, that our improvements absorb the greater part of the Scotch railway iron, the estimate is ventured that one-third at least of the production, or 30,000 tons, was shipped to our markets.

In the same year there were in operation in Scotland 157 foundries, melting 170,000 tons of pig-iron. A much smaller proportion of the manufactures of these works enter into the American trade, yet no inconsiderable amount of castings will be found to have been consumed in this country.

Estimates from the data already presented, adopting the probable average prices of the year, will present the value of Scotch iron imported into this country during 1852, as follows:—

Pig-iron.....	\$1,500,000
Malleable	1,000,000
Total, exclusive of foundry productions	\$2,500,000

It might be instructive to present similar reviews and statistics of the other manufactures of that country, and of their relations to the Commerce of this, if materials equally authentic for careful estimates were available, but they are nowhere distinctly and fully collected and preserved; besides, it would lengthen the present article beyond the purposes in view.

In considering more directly the Commerce of Glasgow with the United States, we are indebted to the records of the American Consulate at that port and its dependencies, for the statistics illustrating it, hereafter presented. These embrace a period of two-and-a-half years, during which the writer was charged with the duties of that office.

The following table exhibits the number of vessels arrived from the United States at Glasgow, American and foreign, for the periods named:

AMERICAN.					
	Vessels.	Tonnage.	From New York.	From other U. S. ports.	From for. p'ts.
1851.....	45	23,487	32	12	1
1852.....	38	21,656	20	17	1
1853, 6 months ending July 1st.	26	13,760	11	11	4
Total.....	109	58,903	63	40	6
FOREIGN.					
1851.....	41	19,477	24	17	.
1852.....	34	19,577	12	22	.
1853, 6 months ending July 1st.	33	17,350	15	18	.
Total.....	108	56,404	51	57	.

The following table exhibits the number of American vessels departed from Glasgow, chiefly for home ports, and of foreign, or British and colonial vessels, for United States ports, with their tonnage, and the ports for which they cleared, during the same time:—

AMERICAN.							
	Vessels.	Tonnage.	For New York.	For Boston.	For Philad'la.	Other U. S. p'ts.	Foreign ports.
1851.....	46	23,904	38	2	1	3	2
1852.....	30	17,358	25	2	2	1	.
1853*.....	35	19,340	23	1	.	11	1
Total....	111	60,602	86	5	3	15	3
FOREIGN.							
1851.....	113	59,414	34	39	.	40	.
1852.....	137	72,712	44	40	.	53	.
1853*.....	77	36,050	34	28	.	8	.
Total....	327	168,176	112	107	.	101	.

Her Majesty's custom-house records at Glasgow do not present, in a complete and aggregate form, the articles nor value of the cargoes arriving. An accurate statement of deliveries by American vessels could, there-

* Six months ending July 1st.

fore, only be obtained by reference to the United States custom-houses, whence the clearances were made. No efficient effort had, consequently, been made by the United States Consulate to gather and record the statistics of inward cargoes from the United States, until the year 1852. Since that time such returns only as could be collected there have been registered. These, though imperfect, may not be without interest as an approximation towards true results in investigating the Commerce of our country with that port.

The following table exhibits such statistics of cargoes arrived from the United States as could be collected from the records of deliveries in the Consulate:—

BY AMERICAN VESSELS.						
	Quarters wheat.	Bbls. flour.	Tierces provisions.	Bbls. naval stores.	Bales cotton.	Packages apples, cheese, &c.
1852	16,569	20,609	540	2,823	24,341	.....
1853*	10,469	27,515	1,021	2,329	21,881	.....

BY FOREIGN VESSELS.						
1852 .....	.....	.....	.....	.....	.....	.....
1853*	1,108	44,814	11,111	8,577	13,883	2,711

The British customs returns for exports are more full and explicit, and the uniform courtesy of Her Majesty's officers in that service enables the Consulate to obtain statistics of outward cargoes much more comprehensive and satisfactory.

The following table exhibits the value of cargoes departed from Glasgow for the United States, together with the number of passengers, and the quantities of pig and malleable iron shipped for the same period:—

IN AMERICAN VESSELS.				
	Value.	Passengers.	Tons pig-iron.	Tons rails and other malleable iron.
1851.....	\$1,037,361	4,691	19,562	700
1852.....	674,057	3,689	14,269	1,849
1853, 6 months ending July 1.	710,792	2,376	14,255	725
Total.....	\$2,422,210	10,756	48,086	3,274

IN FOREIGN VESSELS.				
	Value.	Passengers.	Tons pig-iron.	Tons rails and other malleable iron.
1851.....	\$1,278,294	5,118	23,059	4,644
1852.....	3,753,202	5,136	23,513	6,411
1853, 6 months ending July 1.	1,949,711	2,455	21,669	1,157
Total.....	\$6,981,207	12,709	73,241	12,212

The revenue laws of the United States require that the owner of merchandise imported should make oath before a collector of customs or other competent officer of his ownership, the correctness of the invoice, and the identity of the goods. Wherever, therefore, the owner resides or sojourns here, that verification is made here, usually at the custom-house where the goods are entered. If the owner is in a foreign country he then verifies his invoices before an American Consul, previous to forwarding them to his agent, to whom the goods are consigned. Consequently, all invoices bearing such consular verification, represent only merchandise shipped for account of foreign owners, and consigned to agents or commission houses

* Six months ending July 1st.

here, and a record of them gives no light on importations for American account, or on the relative proportion of goods entered for foreign account. It is believed, notwithstanding, that the following statement may not be without its interest.

The aggregate value of merchandise, invoices of which were verified at the Glasgow Consulate for export to the United States by British owners, for the period already referred to, a moiety of which, probably, was shipped from Liverpool, with an occasional shipment from London, Hull, and other ports, was as follows:—

1851.....	\$2,988,547
1852.....	3,118,329
1853, six months to July 1.....	1,890,813
Total.....	<u>\$7,997,689</u>

It would be a useful investigation to inquire into the proportions existing between the imports of merchandise for foreign account and those on account of our own merchants, and of their relation to the aggregate of importations into the United States, not only in reference to this trade, but to the general Commerce of the country, were not available statistics so entirely insufficient as to forbid it. The records of the customs, published annually by the government, give the imports in detail and their whole value. Explicit and faithful returns from all the American Consulates, carefully arranged and consolidated, can alone enable us to arrive at the amount and value of merchandise received for account of foreign owners. If such returns were required, let their results be deducted from the aggregate exhibited by the customs reports, and the balance would represent the amount of imports for American account. Returns provided for from Consuls, however, do not furnish the necessary data for such an exhibit. Again, were their returns copious enough for this object, only general aggregates would be obtained, without a more comprehensive system of reports. The value of imports from any given port, though deducting the amount of invoices verified before the Consul at the same port, and comparing their sum with the difference, would not give the true relations of home and foreign ownership, in the trade of that place, for in many, perhaps most Consular districts, these verifications embrace merchandise shipped from other, often several different ports. Were it required that such returns should distinguish and consolidate the values of the invoices verified for each shipping port, then customs reports, and Consular records together, would furnish materials for the comparisons and results in question. Such comparisons would be highly important to the intelligent merchant, in governing his foreign orders, by showing to some reliable extent, from the facts collected through a series of years, the competition to be expected from foreign adventures. But until government shall direct the collecting of suitable statistics, through these channels, we must be content with the imperfect estimates, in this regard, now in our power.

ART. IV.—UNIFORMITY IN WEIGHTS, MEASURES, AND COINS AMONG COMMERCIAL NATIONS.

UNIFORMITY in the instrumentalities of exchanges, like the formation of roads, is both the cause and the effect of advancing civilization. As there cannot be weights, measures, and money where there are no exchanges, so there can be no exchanges where these are wanting, and where they are imperfect exchanges must be imperfect. There is a necessity that they should advance with an equal step; if the instrumentalities of exchanges are wanting, Commerce must languish till they are supplied and made equal to its requirements, and where Commerce is absent or extremely limited, it will be found that its weights, measures, and coins are of the rudest character—imperfect and inexact.

In barbarous ages, when a river or a mountain formed an almost insurmountable barrier to intercourse among the scattered populations, every tribe had its peculiar language or dialect, its peculiar customs and laws, and its petty traffic required only such measures as enabled the members of the community to make among themselves a few simple exchanges. If an individual, more adventurous or curious than the rest, undertook the hardships and dangers of travel beyond the natural boundaries of his tribe, he soon found himself, if not among enemies, at least among those with whom intercourse of any kind was almost impossible, and was glad to get back among his own people—by the history of his adventures, confirming rather than lessening their hostility towards all who lived remote. Non-intercourse produced diversity in language and custom, and diversity in these tended to promote non-intercourse, mutual hatred, and savage wars. Incalculable waste of the earth's products was the consequence of non-intercourse. Abundance and famine existed at the same time in contiguous States. Agriculture and Commerce remained undeveloped, and man himself remained, century after century, ignorant, superstitious, and savage, at once the instrument and the victim of priestcraft and misrule.

The use of Commerce being to transport commodities from parts of the earth where they are in abundance to those parts where they are wanted, whatever hinders this transportation, or renders the interchange difficult or dangerous, is detrimental to the service of humanity, whether the obstacles arise in the form of vast mountain chains, or spread themselves out in the shape of tempestuous oceans, or whether they appear in the form of diverse languages or customs, or confused and irregular measures of quantity and value. So long as any of these obstructions remain to be overcome, so long will Commerce imperfectly accomplish its beneficent work—that of taking from every man his superfluities, and giving him in exchange those things which he needs but cannot produce with advantage.

So long as traffic was petty and internal only, comparatively little inconvenience was felt from the diversity in weights and measures, but the rapidly extending Commerce of the present day, bringing nations into a relationship as close as was that of tribes or clans in the earlier ages, renders imperative the demand for a universally uniform system—a system that shall be at once so excellent that its superiority over all others shall be freely admitted, and so simple that it can be easily acquired.

In the United States a decimal currency needs no advocate, experience

having sufficiently shown to all its efficacy and simplicity, notwithstanding its anomalous connection with a system of weights and measures, in which all the articles of Commerce are sold in other than decimal proportions. While our currency is in tenths and hundredths, everything bought or sold is divided into halves, quarters, or thirds, or into the arbitrary and inextricably confused proportions given in Troy weight, avoirdupois weight, long measure, dry measure, liquid measure, &c.—a complicated system which has come down to us from the “good old times” when feudal princes tinkered with weights and measures as well as with the currency; from the rude ages when the length of the inch was determined by the dimensions of “three barley corns;” and when king Henry III. enacted that “An English penny, called a sterling, round and without clipping, was to weigh thirty-two wheat corns taken out of the midst of the ear, and twenty pennies were to make an ounce, twelve ounces one pound, and eight pounds a gallon of wine, and eight gallons of wine a London bushel, which is the eighth part of a quarter.” From such a standard, it is obvious, that absolute accuracy was unattainable, even if the exigencies of those times had required more than an approximation to definite proportions. The accuracy and permanence attainable by means of the metrical-decimal system of France is seen in striking contrast with the above in the history of the establishment of its base, the metre, a forty-millionth of the earth’s circumference.

Having adopted a decimal currency, and at the same time retained a system of weights and measures which, from the constant occurrence in it of the divisions of *twelve*—halves, thirds, and fourths—may perhaps properly be called *duodecimal*, reform in this particular is worthy of attention here more than in those countries in which the reform has not commenced. The fact that in retail trade the sixteenth, eighth, fourth, and half of a dollar are constantly required, while the occasion for the use of any decimal portion is comparatively rare, may show the tendency of our “duodecimal” system of weights and measures to bring the currency into agreement with it; that is, to make the parts of a dollar, like the parts of commodities they are used to purchase, to be sixteenths, eighths, fourths, and halves—an inconvenience not experienced in those countries where the currency and the measures are alike irregular, or “duodecimal.”

Another reason for its special claim upon our attention is the consideration that its adoption by a country whose Commerce is growing so rapidly as ours, would, even if the expressed intention of doing so did not induce other leading nations to adopt it simultaneously with ourselves, finally insure, nay, even necessitate its adoption throughout the world.

It is thus evident that reform in our measures of quantity and value will be only half complete till we adopt a decimal system of weights and measures. Fortunately, its adoption alone is necessary; we are spared the labor of its formation. There exists ready to our hands the French system, simple, beautiful, and complete, at once adapted to the wants of science and of Commerce, and to which it can no longer be objected that it has not been tested by experience, or that its general adoption is attended with insuperable difficulties from the attachment of the mass of the people to old customs. For more than half a century the scientifically formed metrical-decimal system of France has been in advantageous use not only in that country, but in several of the minor States which, in the course of the last half-century, have come under the influence of France.

France was not always homogeneous as now. Consisting for many ages

of several grand divisions, worthy of being considered as so many petty kingdoms—as did England in the days of the Heptarchy—it has only been by a slow and gradual series of changes and developments that the various elements of the nation have become thoroughly united. Down to 1789, the year of the first French Revolution, France was still divided by local customs, dialects, and natural boundaries, into a number of half-cemented provinces. Though now, for a considerable length of time, making in some sort integral parts of one great nation, Brittany, Picardy, Normandy, Champagne, Guienne, Burgundy, Provence, Languedoc, Anjou, and some other districts, retained peculiar systems of weights and measures, which, when at last the old landmarks were broken up by the Revolution, and internal traffic throughout France sought new channels and became more extensive, were found to be sources of endless confusion. A conflict of systems among the various provinces would doubtless have finally resulted in the establishment of one to the exclusion of the others, but not before the lapse of considerable time, or before much inconvenience had been felt. The Constituent Assembly saw this and resolved to apply a remedy at once prompt and radical, and upon the motion of Talleyrand, charged the Academy of Sciences with the task of devising a system of weights and measures which should not only meet the exigencies of France, but of which the simplicity and excellence should lead to its adoption by all other nations.

The result of their labors was the present metrical-decimal system of France, a description of which follows, the substance of which, together with some suggestions for its farther simplification, and better adaptation to the wants of this country and the world, are derived from a memoir by WILLIAM W. MANN, Esq., prepared at the request of ALEXANDER VATTÉMARE, and by him transmitted to the Hon. HANNIBAL HAMBLIN, Chairman of the Committee on Commerce in the United States Senate, in connection with the Reports of MM. Silbermann and Durand on the "Standard weights, measures, and coins exchanged between the governments of France and the United States."

The system is called the *metrical-decimal* system, *metrical* because it is based upon the *metre*, the unit of measures of length, *decimal* because in all the multiples and divisions of the metre and of the other units of the system, the process is by decimals; that is, by tens, hundreds, thousands, tens of thousands; and in the descending series, by tenths, hundredths, thousandths, and so on. The metre itself, the base of the whole system, was obtained as follows:—The Academy of Sciences, resolving that the unit of lineal measure should be the basis of the new system, determined that it should be the ten-millionth part of the distance from the equator to the pole, or a forty-millionth part of a line drawn round the earth through the poles. Adopting temporarily a metre, the length of which was deduced from the measurement of the meridian made forty years before in Peru by the French geometrician Lacaille, for greater certainty the Academy ordered a new trigonometrical measurement of the meridian, which was made. From this measurement was deduced the metre now in use. The meridian selected passed through France from Barcelona to Dunkirk, thence northwardly through England and Scotland, and towards the south through Spain to Formentura, one of the Balearic Islands. The government of France invited foreign nations to unite in this great scientific work, by sending deputies to a congress of the most learned men of all countries. From this body a commission was formed which, having care-

fully examined, tested, and verified what had been already accomplished by the Academy, finally sanctioned the system as now established.

The provisional metre derived from the measurement of Lacaille was found to be for all practical purposes as correct as that derived from the great trigonometrical measurement of the meridian ordered by the Academy of Sciences. For all purposes not purely scientific it is the same. The length of the metre as now established is very nearly thirty-nine inches and a third, or exactly 39.370091 inches of the British imperial yard.

The word *metre* is derived from a Greek word signifying *measure*, and the names of its multiples and divisions are also adopted from the Greek and Latin languages, being thus neither French nor English, but belonging equally to all nations. Notwithstanding the learned nomenclature of the system, it is at once simple, ingenious, and convenient. It is easily learned and retained in the memory. The name instantly suggests the amount and the nature of the measure. It is only necessary to fix in the memory twelve short words with their meaning, and the difficulty is mastered. Probably no nomenclature could be devised more simple or more universally applicable. Of these twelve words four, from the Greek, of the ascending series, are the multiples or augmentations of the units. They are—

Deca, signifying *ten*; *hecto*, a *hundred*; *kilo*, a *thousand*; and *myria*, *ten thousand*.

Next we have three words, from the Latin, of the descending series, which express the divisions or diminutions of the units. These are—

Deci, signifying a *tenth*; *centi*, a *hundredth*; and *milli*, a *thousandth*.

These seven words prefixed to the term *metre* give us the complete nomenclature of the long measure under the French metrical system. Thus—

Myriametre signifies.....	Ten thousand metres.
Kilometre.....	One thousand metres.
Hectometre.....	One hundred metres.
Decametre.....	Ten metres.
Metre.....	One metre.
Decimetre.....	One-tenth of a metre.
Centimetre.....	One-hundredth of a metre.
Millimetre.....	One-thousandth of a metre.

The instruments of long measure are—a double decametre, a decametre, a semi-decametre, a double metre, a metre, (used in Commerce as our yardstick,) a demi-metre, a double decimetre, and a decimetre. The kilometre is the term generally used in speaking of long distances, as we use the term mile. The kilometre is equal to 1,093½ yards. Our mile is equal to 1,609 metres, or 1·609 kilometre.

SUPERFICIAL OR LAND MEASURE.

In superficial measure the unit is the *are*, from the Latin *area*. The *are* is a superficial extent of which each side is ten metres in length, containing consequently a hundred square metres. We have, therefore, by the combination of words above described—

The hectare containing.....	Ten thousand square metres.
The are.....	One hundred square metres.
The centiare.....	One square metre.

The hectare is used in measuring land, as the acre is with us. It is equal to nearly two-and-a-half acres, or exactly 2·471143 acres. The

chain used in measuring land is a decametre, (equal to 32 feet and 9·700910 inches,) of which each link is two decimetres in length.

SOLID MEASURE.

In solid measure the unit is called a *stere*, from a Greek word signifying *solid*. The stere is the cube of a metre. By combination with *deca*, ten, and *deci*, a tenth, we have its nomenclature as follows:—

The decastere containing	Ten cubic metres.
The stere	One cubic metre.
The decistere.....	One-tenth of a cubic metre.

The stere is equal to 35·31658 English cubic feet. The instruments of measurement are the demi-decastere, the double stere, and the stere. These instruments are used chiefly for measuring firewood. The demi-decastere is a little less than $1\frac{1}{2}$ of our cord.

LIQUID AND DRY MEASURE.

The unit of liquid and dry measure is called *litre*, from a Greek word for a measure of liquids. The litre is a vessel containing the cube of the tenth part of the metre. It is a square vessel a decimetre in depth, of which each side measures a decimetre. Its multiples and divisions are formed and named as above explained. They are—

The kilolitre containing.....	One thousand litres.
The hectolitre	One hundred litres.
The decalitre.....	Ten litres.
The litre.....	One litre.
The decilitre.....	One-tenth of a litre.
The centilitre.....	One hundredth of a litre.

The *litre*, which is used as the quart is with us, is rather less than a quart, being 220097 parts of the British imperial gallon, or a little more than a pint and three-fourths. The hectolitre, used in measuring large quantities, is equal to 22·009663 imperial gallons. The legal measures in use are the hectolitre, demi-hectolitre, double hectolitre, decalitre, demi-decalitre, double litre, litre, demi-litre, double decilitre, decilitre, demi-decilitre, double centilitre, and centilitre. These measures have various forms, according to convenience, but their capacity is certain and graduated upon that of the square litre.

WEIGHTS.

In weights the unit is the *gramme*, a term adopted from a Greek word signifying a small weight. The gramme also is based upon the metre. Its weight is the thousandth part of a cubic decimetre of distilled water taken at its greatest density, which occurs at a temperature of four degrees above zero of the centigrade thermometer, (39° 2' Fahrenheit,) weighed in a vacuum. The nomenclature of weights is as follows:—

Myriagramme is.....	Ten thousand grammes.
Kilogramme.....	One thousand grammes.
Hectogramme.....	One hundred grammes.
Decagramme.....	Ten grammes.
Gramme	One gramme.
Decigramme.....	One-tenth of a gramme.
Centigramme.....	One-hundredth of a gramme.
Milligramme.....	One-thousandth of a gramme.

The weight of one cubic metre of distilled water, 1,000 kilogrammes, is the French ton, used in stating the burden of ships. It is equal to nine-

teen hundred and seventy pounds avoirdupois. A hundred kilogrammes is the metrical quintal, and equal to 1.97 cwt., 220.5500 pounds avoirdupois, or 268.0300 pounds Troy.

There are in use weights of fifty, of twenty, of ten, and of five kilogrammes, the double kilogramme, the kilogramme, demi-kilogramme, double hectogramme, hectogramme, demi-hectogramme, double decagramme, decagramme, demi-decagramme, double gramme, gramme, weights of five and of two decigrammes, the decigramme, weights of five and of two centigrammes, the centigramme, weights of five milligrammes, of two milligrammes, and of one milligramme.

The kilogramme is used in Commerce as our pound avoirdupois. It is exactly equal to 2.2055 pounds of that weight. The gramme and its divisions are used by apothecaries and jewelers. It is used also in philosophical experiments. It is exactly equal to 15.434 grains Troy weight.

Thus it is seen that the nomenclature of the whole system is composed of twelve words. Seven of these are the numerals of multiplication and division, as before stated; the other five are—

The *metre*, the unit of long measure.

The *are*, the unit of superficial or land measure.

The *stere*, the unit of solid measure.

The *litre*, the unit of liquid and dry measure, or capacity.

The *gramme*, the unit of weight.

The combination of these, as has been seen, supplies all the names required in the system, the termination expressing the kind of measure, and the prefix its amount.

Standards of the metre and of the kilogramme, made of platinum, as the metal least liable to alteration, have been most carefully constructed, and are deposited among the archives of the State. The standard metre, at the temperature of freezing water, indicates the true length of the metre. The standard kilogramme, weighed in a vacuum, gives the true weight of the kilogramme.

THE COINS OF FRANCE.

With characteristic ingenuity the French have connected the coinage with the metrical-decimal system. The franc, the monetary unit, is equal in value to eighteen cents and seven mills of our money. It is divided into *decimes* and *centimes*, (tenths and hundredths.) Accounts are kept in francs and centimes. The franc is a coin of which nine parts are silver to one of copper, and weighs five grammes. Gold coins are nine parts pure gold and one part copper. The centime and all the copper coins are made of an alloy, of which ninety-five parts are copper, four tin, and one zinc. The centime weighs one gramme. The proportional weight and dimension of the coins of France are exhibited in the following table:—

GOLD.			SILVER.			COPPER.		
Denom- ination. Francs.	Weight. Grammes.	Diam- eter. Milli- metres.	Denom- ination. Francs.	Weight. Grammes.	Diam- eter. milli- metres.	Denom- ination. Centimes.	Weight. Grammes.	Diam- eter. milli- metres.
20	6.45161	21	5	25	37	10	10	30
10	3.22580	17	2	10	27	5	5	25
5	1.61290	14	1	5	23	2	2	20
			Centimes.					
			50	2½	18	1	1	15
			20	1	15			

No other coins than the above are now struck, and all old coins are be-

ing gradually withdrawn from circulation. Of the three metals used for the coinage, 3,100 francs in gold, or 200 francs in silver, or 10 francs in copper weigh one kilogramme, so that the coins may be used for ordinary purposes as weights, instead of the regular weights of brass and iron. Thus, by decimal division, by weight and by diameter, is the coinage of France intimately connected with its weights and measures. This connection is so complete that the length of the metre may be obtained with correctness enough for all practical purposes, by placing a number of coins together in a line, of which the various diameters, as may be seen by the preceding table, are regular proportions of the metre. The absolute accuracy, however, of this method of measurement is destroyed by the letters in relief on the edges of some of the coins, which is to be regretted, as impairing, though to an unimportant degree, the beautiful harmony and close connection of parts for which the system is so remarkable.

The above description, imperfect as it is, may serve to show that the system is immeasurably superior to every other that has been in use in ancient or modern times. Connected with an unchangeable base, the forty-millionth part of the earth's diameter, it has at the same time the recommendation of introducing into all calculations of weights and measures, the facility and rapidity which already characterize our calculations in dollars and cents.

In the adoption of this system, however, by the United States and England, and almost necessarily afterwards, by all commercial nations, it might be desirable to modify it in a few particulars, though radically it is perhaps not susceptible of improvement. The modifications of which it is designed here to speak relate only to such a trifling change in the nomenclature of the system as would secure a similar pronunciation in all countries, and by adapting it more fully to the uses of actual Commerce.

The change suggested in the nomenclature relates not to its etymology, but to its orthography. The names of the units as they now stand are liable to be differently pronounced even in the same country. It is proposed to apply to all of them a rule of modification, which, without changing their derivation, will make monosyllables of them all, and establish their orthography in such a manner that the same sounds must be necessary in all the languages of Europe, and make variation in the same country unknown. Thus, if the spelling of *metre* were changed into *mett*, *are* into *arr*, *stere* into *sterr*, *gramme* into *gramm*, and *litre* into *litt*, every Frenchman would at once pronounce these words exactly as we do. He could not, by the rules of his language, do otherwise. In Great Britain and this country there would be no variation; neither is it possible to conceive how any other pronunciation could arise in Germany, or in any part of Europe, if the final consonants were always doubled. The names of the units thus modified should be without change, or even the addition of the sign of the plural, which the numeral prefixed would indeed render unnecessary.

The denominations of the multiples and divisions of the units, and of the weights and measures of the system, are unnecessarily and inconveniently various; for instance, the *kilolitre*. Why not say one thousand litres—or ten hectolitres? Instead of the terms double decalitre, decalitre, demi-decalitre, double decilitre, decilitre, demi-decilitre, would it not be more convenient in practice to say twenty litres, ten litres, five litres,

twenty centilitres, ten centilitres, and five centilitres? As the franc is divided into centimes, so should the litre be divided into centilitres. In monetary divisions there is no use for the terms decimes and demi-decimes—neither is there any more necessity for the terms decilitre and demi-decilire. The same remarks are applicable to the multiples and divisions of units throughout the series composing the system. What is intended not for scientific and learned men exclusively, but for constant popular use, should be reduced to the simplest form consistent with perfection in practice. All technicalities not necessary should be carefully avoided. To the existence of these learned technicalities is to be ascribed the difficulty experienced in some parts of France in making the system take root. In this respect the system bears evidence of its paternity. Devised by purely scientific men, it needs to be perfected by practice and experience. It is, therefore, suggested that when other nations adopt this system they will fix the denominations of the various measures, and of the multiples and divisions of the several units, as follows:—

LONG MEASURE.

The miriametre	Ten thousand metres.
The kilometre	One thousand metres.
The metre	One metre.
The centimetre	One-hundredth of a metre.
The millimetre	One-thousandth of a metre.

The *myriametre* is for the statement of astronomical spaces; the kilometre for geographical and itinerary distances; and the millimetre for scientific and other purposes. The measures of Commerce would be the same as now—being, however, simply called measures of twenty, ten, five, and two metres; of one metre, of a demi-metre or fifty centimetres, and of twenty and of ten centimetres.

SUPERFICIAL MEASURE not being probably capable of further simplification, need not be here again given.

In SOLID MEASURE, the following denominations would be found more convenient in practice than those now used:—

The hectostere	One hundred cubic metres,
The stere	One cubic metre.
The centistere	One-hundredth of a cubic metre.

The measures in use now would remain, only being called measures of five steres, of two steres, and of one stere.

In WEIGHTS the following denominations would be found sufficient:—

The kilogramme	One thousand grammes.
The gramme	One gramme.
The milligramme	One-thousandth of a gramme.

The ton, of one thousand kilogrammes, for stating the burden of ships, would be retained, as would also the metrical quintal, of one hundred kilogrammes, to be used in measuring large quantities. The weights of Commerce would be the same as at present, but called simply weights of fifty, of twenty, of ten, of five, and of two kilogrammes; of one kilogramme, of a demi-kilogramme, or five hundred grammes, and of two hundred, one hundred, fifty, twenty, ten, five, and two grammes; of one gramme, of a demi-gramme, or five hundred milligrammes, and of two hundred, one hundred, fifty, twenty, ten, five, and two milligrammes, and of one milligramme.

In LIQUID and DRY MEASURE the denominations would be—

The hectolitre.....	One hundred litres.
The litre	One litre.
The centilitre	One-hundredth of a litre.

The measures now in use would remain, but would be denominated the hectolitre; the demi-hectolitre, or fifty litres; measures of twenty, ten, five, and two litres; of the litre, the demi-litre, or fifty centilitres; of twenty, ten, five, and two centilitres; and of one centilitre.

A short comparison of the above denominations and numbers must satisfy any one, that while they belong as rigorously to the metrical system as those actually in use, they are at the same time more convenient and simple, and therefore better fitted for universal adoption.

It is suggested that a rule may be found for the establishment of the five units of the system, that shall have the advantage of greater simplicity, and at the same time be more rigorously systematic. Instead of the present expression of the units:—

<i>Metre</i> , a certain portion of the earth's meridian.....	One metre.
<i>Are</i> , surface of	One hundred square metres.
<i>Stere</i> , a mass of	One cubic metre.
<i>Gramme</i> , a weight of distilled water.....	One cubic centimetre.
<i>Litre</i> , a vessel containing	One cubic decimetre.

it would be better to say the units are:—

<i>Metre</i> , a certain portion of the earth's meridian.....	One metre.
<i>Are</i> , a surface of	One metre square.
<i>Stere</i> , a mass of	One metre cube.
<i>Gramme</i> , a weight of distilled water	One metre cube.
<i>Litre</i> , a vessel containing.....	One metre cube.

The length of the metre, however, as actually fixed, renders this mode of determining the value of the other units impossible in practice. This difficulty may be removed by reducing the metre to the length of the present decimetre, making it, not a ten-millionth part of a fourth of the earth's meridian, but a hundred-millionth. The nomenclature and principle of construction of the system would not be affected in the slightest degree. It would only necessitate a partial shifting of names. Thus—

The myriametre would become	the deca-myriametre.
The kilometre.....	the myriametre.
The metre.....	the decametre.
The decimetre	the metre.
The centimetre.....	the decimetre.
The millimetre	the centimetre.

The same yard-stick would be used, only being called decametre instead of metre. Itinerary measure would remain as it is, only the kilometre would be called myriametre. The land-measurer's chain would be called a hectometre, instead of a decametre.

The hectare would become.....	the hecto-myriare.
The are.....	the myriare.
The centiare	the hectare.

In Solid Measure:—

The decastere would become	the myristere.
The stere	the kilostere.
The decistere	the hectostere.

In Weights:—

The kilogramme would become.....	the gramme.
The gramme.....	the milligramme.
The milligramme.....	the mille-milligramme.

In liquid and dry measure there would occur no change whatever, except that we should say of the litre, it is a vessel of which the capacity is one cubic metre, instead as now of one cubic decimetre; for, under the new arrangement, the decimetre would have become the metre.

With regard to the coinage of France, so intimately connected with the metrical-decimal system of weights and measures, it is desirable that there should be an important modification of the monetary unit before its universal adoption. The actual unit of French money, the franc, is too small. Let the five-franc piece, nearly of the same value as the dollar, be divided decimally into cents and mills, and be made the unit of the universal currency. It would be necessary to give it a new name, which should not be either franc or dollar, as these names would be liable to create confusion in the ideas of those who had been in the habit of attaching them to a different value, besides having a national character might on that ground excite prejudice, and cause delay in the adoption of the system. A name might be taken for this as for the other units from one of the dead languages, which, being equally the property of all mankind, would be free from all these objections. The name of the old Greek silver coin *stater* might be adopted without change, or it might become *statre*, conforming with metre and litre, or in accordance with the modified nomenclature suggested above, it might become *statt*. The three denominations of money then being *statre*, *centistatre*, and *millistatre*, might be annexed to the five series of weights and measures, each series being composed of three denominations only, except that of long measure, in which, for scientific purposes, two supernumerary terms, myriametre and millimetre, are retained. It might be convenient for the stating of very large values to add the term *decastatre*.

Though few persons could be found to deny the advantages of a uniform system of weights and measures throughout the world, there may arise with many a doubt as to whether the universal system to be adopted should be a decimal system. It may be objected, that as the various weights and measures now existing are the natural growth through a series of ages of the necessities of traffic, and being thus founded on experience, are therefore likely to be better adapted to practical purposes than any artificial system, the work of merely scientific men. It may be said that it is not from accident or arbitrary arrangements that in all the various proportions of the old English weights and measures, ten or a *tenth* never occurs, while *twelve* and its divisions and multiples are constantly occurring, from which it may be argued that there is a natural fitness in the number *twelve* to be used as the numeral base of measurements. But to this there is the satisfactory answer, that in France the decimal system has been found, after an experience of more than fifty years, to work well, and that if any inconvenience has been felt from parts of the system, it has been much more than compensated by its general superiority.

As for any difficulty that might be experienced in causing its adoption in this country from the attachment of the masses of the people to old customs, it is likely that much less opposition would be made to it here than in other countries, partly from the experience already had in a deci-

mal currency, and partly from our being much more accustomed to the adoption of new improvements and inventions than any other people. There will, therefore, when this subject shall be taken up for action by the great commercial nations, be found in this country but a united voice in its favor. The merchant as well as the philanthropist will welcome this as one of those measures whose tendency is to bring the nations of the world into a universal brotherhood.

Art. V.—COMMERCE OF THE UNITED STATES.

NUMBER XX.

STAMP DUTY—FAVORITISM TOWARD JAMAICA—OTHER INJURIOUS ACTS—MEASURES TO ADVANTAGE THE COLONIES.

AFTER exhausting their eloquence in petitions and remonstrances, the colonists resorted to their first practical measure with reference to the acts lately adopted and impending. In July, about two months before the new Sugar acts went into effect, about fifty of the leading Boston merchants signed an agreement, in the shape of a formal resolution, to curtail largely the use of those superfluities of dress obtained from abroad. Laces and ruffles were to be laid aside; no English cloths were to be purchased but at a fixed price; and most of the articles used in mourning habits were to be laid aside. They further agreed to encourage every species of home manufacture. This spirit spread widely in Massachusetts and some other colonies; a very considerable retrenchment was made in the amount of foreign purchases, and the manufactures, especially of the coarser kinds of clothing, took such a start that the colonists were emboldened to the belief that, in case of necessity, they could manage to live comfortably without depending on outward trade for any of the necessities, or even the real conveniences of life.

This measure was, partly, what it appears on its face—retaliative—and was also partly the dictate of *necessity*. By the powerful adverse influence it would exercise upon British Commerce, it was hoped the ministry might be compelled to retrace their steps. But if ineffective to that end, it was still necessary, when the means of purchasing from England were so largely cut off, to limit their business with her in a corresponding degree. Even in the ordinary course of things, a considerable retrenchment in their foreign purchases was imperatively demanded. The great fault of the colonial merchants had always been a disposition to buy beyond their abilities—an evil which was much facilitated by the easy credits they were allowed by the merchants of England. To the latter a great part of the provincial traders were already so much indebted, that they could obtain no farther credit, and must therefore, perforce, alter their style of business and of living, or go into bankruptcy.

The two revenue acts went into operation at the appointed time, and the most vigorous efforts were made to secure their full enforcement. The naval officers, being also customs officials under them, exerted the same vigilance and energy they had lately employed in capturing prizes from

the enemy. In this new employment, their services were advantageous to the interests of neither party. Being, of course, mainly unacquainted with the rules and customs pertaining to the service, which considerable attention and experience were required to understand, and still less aware of the particular irregularities which it was for the advantage of all to overlook, as it had been the authorized custom, they eagerly and indiscriminately pounced upon every vessel found infringing in the slightest degree upon the strict letter of the law, of which they were necessarily, in a great degree, the rude interpreters.

The proper customs officers were also sufficiently decided in their support of the new acts. Perpetual collision occurred between them and the New England merchants, especially in the ports of Boston, Salem, Gloucester, Newport, and Falmouth (now Portland.) The excitement rose to a high pitch. But the officials, under the strict injunctions given them and the new and efficient authority brought to their aid, were indomitable. It was in vain to complain of even the palpable illegality of many of the seizures. The only redress for such improper violence was in an appeal to the boards of admiralty or the treasury in England; but this was a resort so distant, the delay and expense of action were so great, these arbiters were, besides, so mutually prejudiced against the cause of the colonists, and the latter were so utterly repugnant to the transfer to England of the jurisdiction of cases which should have been, as always before, at least primarily settled in the colonial courts, that the privilege was of little avail to them.

Macgregor finds one instance of a case tried before the Superior Court of New York in 1766, but it originated from a seizure made in 1763—the year before the acts in question were enacted. The suit was for illegal seizure of ship and cargo by a captain in the royal navy, and a verdict was rendered, in favor of the owner, of 4,046*l.* with costs.

Under these proceedings, the important trade of the Northern colonies to the foreign West Indies was soon almost entirely annihilated, and all branches of their Commerce and of internal trade and industry suffered severely in sympathy. The drain of silver in the payment of the duties, so far as the trade was still continued, soon exhausted the colonies of the little specie existing in their circulation. To add yet more to their embarrassment, Parliament had also, but with less questionable propriety, perhaps, than in the other cases, interfered in reference to their paper issues. A few days only after the passage of the new duties, a bill was adopted, inhibiting any farther emissions of the colonial credits, their in being made *legal tender* for debt, and enjoining the prompt redemption, hard money alone, of all those in circulation at the time their payment became due.

But the North Americans were not the only sufferers by the new tariffs. Jamaica, the favored West India colony, which was principally to derive the benefit of these acts, felt their evil results most severely.*

In the impartial and indiscriminate exercise of their duties, the naval officers cut off as well the trade between this island and the foreign West Indies, as between New England and the latter. The colonists of Spain

* The population of Jamaica was estimated in 1764 at 15,000 whites, exclusive of the military and naval establishment and the sea-faring people; and 4,000 free people of color. The slaves, by census in 1762, numbered 146,464. The total would about equal the population of Connecticut, New York, or Maryland, and was exceeded among the continental colonies only by Massachusetts, Pennsylvania, and Virginia.

in the West Indies and on the continent, had long been accustomed to resort clandestinely to the English islands for the purchase of European merchandise, which Spain, attempting the monopoly of their market, furnished them at most exorbitant prices. Jamaica had always been the great center of this intercourse, and had profited extremely by it. The Spaniards came thither in small coasting vessels, bringing mules, cattle, cochineal, indigo, some medicinal drugs, and great quantities of gold and silver. They entered under pretence of stress of weather, accident, or for refreshments—the only admissible causes—disposed of their cargoes, and took back, at the risk of confiscation and corporal punishment from the Spanish authorities, almost all species of British manufacture. The English government had connived at this trade, though under its own interdiction, on account of the great advantage to the islands, to the British manufacturers, and to British Commerce.

The naval officers, with uncalculating impartiality, fell upon these Spanish contrabandists, and the Governor of Jamaica, being also compelled by the letter of his instructions to assist these zealous administrators of the law, this most advantageous trade was speedily extinguished, and the supply of the Spanish colonies passed into the hands of the French, the Dutch, and the Danes, all eager to accept the fortunate opportunity; and the latter, endeavoring to make most of the advantage by throwing open their little islands for the importation, free in effect, of all European goods.*

Thus the British navy, becoming in effect *guarda costas* for the king of Spain, effected in his behalf what the utmost efforts of his own fleet had been unable to accomplish. The effect upon the prosperity of Jamaica was seen in a diminution of 168,000*l.* in its exports, and of a still larger reduction in its imports, being fully proportional with the loss of the Northern colonies from the tariff acts.

Another occasion of injury to a portion of the British West India colonies was an attempt of the king, by letters-patent issued in July of this year, (1764,) to impose upon the *ceded islands*; namely, those captured from France during the war and confirmed to England at the peace, the four-and-a-half per cent duty. This tax upon export had been originally granted by the Assembly of Barbadoes, and had afterwards been extended to the other British islands. The plea for enforcing it upon the ceded islands against the will of their inhabitants, was the principle that the crown possessed absolute dominion over them as *conquered territories*. The planters opposed the claim, on the ground that such dominion, if it ever existed, was relinquished by the proclamation inviting British settlers, and assuring them of the enjoyment of all the rights and immunities secured by the British constitution. The contest lasted until 1774, when it was decided by the judiciary of England against the pretensions of the sovereign.

* By decree of July 7, the king of Denmark opened his islands of St. Thomas and St. John for the admission of European merchandise in Danish vessels, paying two per cent *ad valorem*; and of American produce in vessels of any nation, paying five per cent, such vessels being allowed to export any foreign goods *free of duty*; but exports to Europe to be made only in Danish vessels, and to go direct to Denmark. These islands were occupied mostly by British planters and merchants, the latter mostly engaged in contraband trade, and their newspapers were printed both in Danish and English. The opening of these islands was of much benefit afterward to the North Americans, who profited also somewhat by a decree of the king of France in 1764, allowing all vessels to sail freely along the shores of the French islands, and even to enter them in case of necessity, English vessels, by treaty, not being before permitted to sail within a league of those islands—the same restrictions applying to French vessels regarding the English islands.

Nor was England without her full share of the evils of her late impolitic measures. Without materially improving her revenue, these acts, through their disastrous influence upon the colonies, inflicted serious injury upon her own interests. To the surprise of the ministers, the exports of the kingdom to both the North American and West Indian possessions experienced an alarming diminution, and while expecting the complete triumph of their policy, the cabinet was stunned with a cry of reprobation, no less boisterous and general from the distressed merchants and manufacturers of Britain than from the habitual grumblers of the colonies.*

But, worthy of all attention, and admonitive of high danger as was the former voice, it was not yet the design of the government to make that speedy and inglorious retreat from their ruinous error which they were called upon to perform. Nor had they even abated their intention to push farther onward in their infatuated policy. They were not disinclined, indeed, to relieve, as far as possible, their favorite Jamaica, and to partially obviate thereby the embarrassments of England, but they would suffer all rather than mitigate the atrocity of their measures toward the turbulent plantations of North America. Instructions were accordingly sent to the governors, collectors, admirals, and other officers of the land and water, within the latter, to maintain all that rigidity and vigor in the execution of the recent laws which they had before displayed, while to the same officials at Jamaica and the other West India islands orders were simultaneously dispatched, that Spanish vessels entering therein by reason of *distress, or for supplies*, AS FORMERLY, should receive all the *assistance* they had formerly received, *provided*—as a seeming regard to law made it necessary to except—"they did not attempt to bring in foreign merchandise."

But it was too late to retrieve the blunders of the naval zealots, or at least to restore matters entirely to their former condition. The Spanish smugglers were disgusted with the conduct of men who had first encouraged them to violate the laws of both countries, and had then so shabbily turned upon them. The Dutch, Danes, and French had quietly seated themselves in the lost position of England, and were determined to maintain their acquisition by every effort in their power. While the trade had been in the possession of England, it had owed its success mainly to the quiet and unobserved method in which it had been conducted. When the evils of its strangulation were discovered, the matter of reviving it was *publicly* discussed; the jealous government of Spain took cognizance of the designs of England, and to defeat the scheme of the intended restoration, the trade of all the Spanish West Indies was, for the first time, opened to all Spanish subjects, on the European or American continents, on the payment of moderate duties on importation into the islands. Hitherto, all the trade of the Spanish colonies had been a close monopoly of the crown, or of associations formed under the royal charter. The Spaniards, indeed, in both hemispheres, lacked the spirit and the ability to profit greatly by this indulgence, in competition with English traders; but the increased advantages for contrabandism thus opened were equally available by other nations as well as the English, and though the demand for British fabrics still maintained the ascendant in the Spanish colonies, the lost ground was but partially recovered.

* In 1764, there were 301 bankruptcies in Great Britain, a number unequaled in any previous year of British history.

OTHER COMMERCIAL LEGISLATION. Another measure of Parliament in 1764, calculated to injure the trade of America, was a statute for the encouragement of the *hat manufacture* in Great Britain. By this act, the drawback before allowed on the re-exportation of beaver skins from the kingdom was repealed, and in its stead a duty of 7d. on each skin and 1s. 6d. for every pound of beaver wool was imposed on such export, the skins on their original importation paying a duty of only 1d. each. The design of this act was to cut off the European market, which the colonies had hitherto indirectly enjoyed, for this species of fur, to cheapen the price of the raw material to the English hatters, and to suppress the manufacture elsewhere in Europe. The effect of this act was more unfavorable toward America from the increase that had taken place in the value of furs throughout Europe. After the conquest of Canada, large orders for furs and skins were forwarded to England from Flanders and other parts, and even from Russia, which, though largely producing them, was unable to supply the wants of its own inhabitants.

Another measure, about this time, not calculated to advantage the colonies, or to lessen the occasions of difficulty with the royal officers, was an order from the king to the Surveyor-General of Woods in America, to set off at places near the sea or navigable rivers in New England and Canada 300,000 acres of the best woodlands for the uses of the British navy, and to be preserved, under heavy penalty, as provided in former laws, from the intrusion of the inhabitants. The attempt to guard similar reservations had long before been occasion of difficulty between the officers and the frontier people; and the prospects of collision increased as the population of the wooded localities augmented, and as the multiplication of towns, and the extension of the ship-building interest in New England, began sensibly to exhaust the more available forests.

But the legislation and the other imperial influences of the year were not entirely vicious in regard to what affected colonial interests. There were, indeed, several measures adopted during this and the two or three preceding years that deserve favorable mention, as *intended*, in at least an incidental manner, to confer positive benefit upon the colonies. In 1761 and succeeding years, large grants of money were made as compensation to the North Americans for their expenses in the war. These amounts were paid in specie, and were a most important relief, especially to the New Englanders in the disordered condition of their finance, and the miserable state of their currency. The annual grant for the support of Georgia in 1761 was £4,057, of which sum £1,000 was appropriated for purchasing the cocoons of the silk-worms, and for the farther encouragement of that branch of industry, Mr. Ottolengi, an Italian, was sent out under salary to instruct the Georgians in the management of the culture. The same year, also, the society instituted under royal auspices in London for the encouragement of arts, manufactures, and Commerce, offered large premiums to those who should import the largest quantity of Pot and Pearl Ashes from the colonies. Treatises were also distributed among the colonists, giving instructions relative to the best method of manufacturing those articles.

In 1763, the act granting a bounty on the production of Indigo in the colonies was continued for seven years from that time, although the premium was reduced to 4d. the pound. The newly acquired regions were opened to settlers from the older colonies or elsewhere on the most liberal

terms, and with assurance of the utmost political privileges. Extensive donations of land were made to officers and soldiers serving in the late war, and free grants, also, were made in the Floridas and other parts to such persons as would undertake the culture of silk, cotton, wine, oil, cochineal, indigo, madder, &c., regarding all which there were existing encouragements in the shape of bounty or otherwise.

The offensive measures of 1764 were accompanied by several acts of protection and encouragement. To stimulate the cultivation of Hemp and Flax in America, Parliament granted a bounty of £8 on every ton of clean merchantable hemp or rough flax imported from the colonies into Great Britain from June 24, 1764, to June 24, 1771, descending to £6 for the years 1771-8, and £4 for the third seven years, 1778-85. The act encouraging the import of Timber and Lumber from the colonies, being about expiring, was renewed for seven years more. Another act permitted Rice to be carried from South Carolina or Georgia, in British or colonial vessels, to any part of America lying to the southward of Georgia, on paying one-half subsidy, equivalent to the duty remaining in the treasury if the rice were carried to England and thence reshipped with drawback. The grant of this privilege, however, involved again the principle of *taxation*. For the encouragement of the colonial Whale Fishery, already rapidly increasing, another act made a great reduction in the duties on oil and whale-fins imported into Great Britain from the colonies. This act had a most beneficial influence on that branch of American business. To increase and secure the safety of the Cod Fishery, yearly grants, averaging about £10,000, were made to the young colony of Nova Scotia, to relieve its population of the expense of government; and the import of Salt into Canada was now permitted for one year from any part of Europe, as already allowed in New England and Newfoundland. These latter measures were positively beneficial to the colonies chiefly concerned in the pursuit, in so far as they tended to secure the fisheries against capture or competition by the French, but were, in another view, regarded as adverse, as succoring a new and important rival. Another measure, calculated to be positively beneficial, was a resolve for a complete *survey* of all the coasts, harbors, bays, and rivers of the grand colonial empire in North America, under the authority of which two Surveyors-General, Messrs. Samuel Holland and William De Brahm, were appointed, the former for the region from the St. Lawrence southward to the Potomac; the latter for that lying between the Potomac and the extremity of Florida. The act regarding paper-money, though apparently adding to the present embarrassments of the colonies, must on the whole be regarded as not only a legitimate use of power, if England could at all properly legislate for America, but as a judicious restraint upon a very dangerous system in which the Americans were too much inclined to adventure.

Such were the beneficial or least objectionable measures recently adopted bearing on colonial interests. If some were of indifferent or questionable policy, the *intent* of all was good, and there were some among them calculated to be productive of positive advantage. But whatever beneficent results might accrue from this embodiment of good intentions, they were engulfed in the gigantic mischief of the last-named year's legislation.

Art. VI.—THE LAW MERCHANT.

NUMBER II.

THE APPLICATION OF VOLUNTARY PAYMENTS.

HAVING in the last number explained the debtor's right to apply a voluntary payment, we proceed to the second division of the subject:—

II. THE CREDITOR'S RIGHT TO APPLY THE PAYMENT.

If a payment is unaccompanied by any directions as to its application, it is called a *general* or *open* payment; and the rule of law in respect to payments of this kind is, that the party who receives them has a right to apply them. That is to say, whenever a debtor has made a payment without communicating to the creditor his wishes respecting its application, the right to apply it passes to the creditor.

In exercising this right the creditor may follow his own interest; he is not bound to follow that of the debtor. He may select that one of his claims which it is most for his interest to have paid first, and apply the general payment upon that. Yet he must not make a harsh, unreasonable application, or one which the debtor, if he had thought about it, could not reasonably have expected that he would make. The case of *Ayer vs. Hawkins* illustrates these principles.

Ayer brought this suit against Hawkins to recover the amounts of three promissory notes made by Hawkins. The defense was that the notes were "outlawed."

It was evident upon the trial that the notes of Hawkins had been due more than six years before the commencement of the suit. To meet this difficulty Ayer undertook to show that Hawkins had made a part-payment upon each of the notes within six years. To do this he called a witness who was present at a conversation between Ayer and Hawkins, in the course of which Hawkins admitted that in 1841, which was about five years before the trial, he had paid Ayer twenty dollars.

"Well," said Ayer, continuing the conversation, "I indorsed the money upon the notes; was that right?"

"I don't know anything about any notes," replied Hawkins.

Ayer then showed, after this witness had finished his account of the conversation, that he had divided the twenty dollars between the three notes—indorsing a part of it upon each of them. Thus, as his counsel contended, there had been a part-payment upon each of the notes within six years, and so they were all taken out of the Statute of Limitations.

Hawkins then offered some evidence tending to prove that he had *lent* the twenty dollars to Ayer instead of paying it to him. He was not very successful, however, in his endeavor to make this out.

After the evidence was all given, Judge Redfield charged the jury. He told them that if they were satisfied that Hawkins paid Ayer twenty dollars to apply towards debts which he owed him, and gave no directions at the time of payment upon what debt it should be applied, it thereby became the right of the plaintiff to make the application upon such claims as he had against the defendant in any of the ordinary modes of making such applications, but not in an extraordinary and unreasonable manner.

As there was no evidence that Ayer had any other demands against Hawkins, to which this payment could apply, except the notes in suit, they might infer that it was intended to apply on the notes, or one of them; and if so, it would remove the bar of the Statute of Limitations as to such note or notes. But the plaintiff, Ayer, could not apply a part of the payment upon each note, and thus take all out of the statute. The most he could do, would be to apply it to that one of his demands which would be most favorable to himself; and as all the notes were barred by the statute, Ayer would be justified in making the application upon the largest note, though that was the most recent, if there was nothing from which it could be ascertained upon which particular note the defendant, Hawkins, intended the application to be made.

The jury found a verdict for the plaintiff, Ayer, for the amount of the largest note. Both parties were dissatisfied with this decision, and they both appealed.

Ayer contended that he ought to be allowed to recover upon all three of the notes; Hawkins that he ought not to be compelled to pay either of them.

The Supreme Court decided that the instructions which Judge Redfield gave to the jury were correct. After concisely stating the rules of law, which we have already considered, Judge Royce, who delivered the opinion of the Supreme Court, concluded it as follows:—

“But although it is usually said that the creditor may apply a general payment as he pleases, there are many cases where he is not indulged to this extent, even in the absence of any express direction from the debtor. The right to direct the application being universally conceded to the debtor in the first instance, regard is still had to his intention in the matter where the facts and circumstances render that intention sufficiently clear and certain. And if the debtor silently waives the right in favor of the creditor, it should be intended that he does so relying upon a mode of application to which he could not justly or reasonably object. But the course which the plaintiff pursued in this instance, by distributing the payment among all his demands, and thus seeming to preclude all defense under the statute as to either, was such as he doubtless knew was not anticipated, and would not be approved or sanctioned by the defendant. It is entirely without precedent, as far as I have discovered, among the numerous cases reported on this subject, and we are fully convinced that it has not produced the effect desired. The plaintiff was at liberty to select any one, even the largest of the notes, and apply the payment upon it, for so much had been yielded to him by the defendant. And the defendant must be taken to have understood that his legal liability upon such a note would be thereby revived, but beyond this his presumed intention cannot justly be extended. As the charge of the judge was in accordance with these views, and the plaintiff was enabled to recover to the extent of his legal right, there is no apparent error to be corrected, and the judgment below is affirmed.”

It is not easy to define the limits of the creditor's right much more distinctly than is done in the above decision. He can make no application which is harsh, unreasonable, or unjust toward the debtor; but whether any application violates the rule, is only to be determined upon a review of the circumstances of the particular case.

One or two principles have, however, been laid down which will guide creditors to avoid manifestly objectionable applications.

One is that the creditor, as a general rule, can only apply the payment to legal, valid claims, capable to be enforced against the debtor. He cannot employ a general payment in satisfaction of a claim which the law will not enforce.

The case of *Ayer vs. Hawkins* is perhaps an apparent exception to this rule, for, though it is not distinctly stated, it appears from the report to have been the case that at the time when the general payment was made all three of the notes were outlawed. If so, then in that case the creditor was allowed to apply his payment to a claim which could not at that time have been enforced at law. But we must remember that Ayer had no other claim capable to be enforced against Hawkins upon which he might have applied the payment. He had only the three outlawed notes; at least there was no evidence of any others, and it is very probable that if it had been proved that at the time when Hawkins paid the twenty dollars he owed Ayer a debt which was then legally collectable, it would have been decided that the payment ought to have been applied to the valid, collectable debt, instead of to either of the outlawed notes.

Another limitation upon the creditor's right of application is this: that he can never hold a payment in suspense until a new debt accrues and apply it to that, leaving a prior indebtedness, which was subsiding at the time of the payment, unsatisfied. The creditor need not, as will be more fully pointed out, make his application immediately upon receiving the money, but whenever he does make it he must choose among the various debts existing at the time when the money was paid. This principle is explained in an English case, (*Hammersley vs. Knowleys*, 2 *Espinasse's Rep.*, 665,) which was tried between fifty and sixty years ago.

The facts of that case were these:—All readers of English history know that George IV., when Prince of Wales, was a very extravagant and dissipated young man, and although the income allowed him was fifty thousand pounds, he ran very heavily in debt; so much so, that the king, his father, finally refused to assist him, and application had to be made on his behalf to Parliament for relief. After some temporary aid, which was insufficient, an arrangement was made for the payment of the Prince's debts and the increase of his allowance, it being made a condition that he should marry the Princess Caroline of Brunswick. This he accordingly did.

A jeweler named Nathaniel Jeffreys, who had a high reputation for skill in his trade, was engaged to provide the jewelry for the marriage between the Prince of Wales and the Princess Caroline. The expense of such jewelry as was considered suitable was fifty-five thousand pounds, or about two hundred and sixty thousand dollars. Of course, to prepare these jewels required the expenditure of a large sum in advance by Jeffreys, and either because he had not sufficient capital for the enterprise, or was not sufficiently cautious in the employment of it, or more probably because payment was not made to him for the jewels so soon as he had reason to expect; he became very much embarrassed. He was indebted to his bankers, the Hammersleys among others.

Anxious to protect the Hammersleys from loss, Jeffreys procured from his brother-in-law, Knowleys, a promissory note for eight hundred pounds, which note he indorsed to the Hammersleys, and paid it, together with two others, into their hands. This was early in February, 1797. On the 27th of February the notes fell due. Before that day, Jeffreys explained to one of the Hammersleys that the note of his brother-in-law was only

what is called an "accommodation" note, that is, a note made as a favor to the payee and without his paying value for it, and asked him if he would not hold it over after it fell due, until he, Jeffreys, should receive payment for the royal jewels. To this Hammersley consented.

On the 27th of February Jeffreys paid to the Hammersleys two thousand pounds, and said that as soon as he received his money he would pay the balance that he owed them, and would also leave a deposit in their hands for use, sufficient to repay them for their favors to him. The two thousand pounds was paid in generally, and the Hammersleys carried it generally to Jeffreys' account. There was then remaining due about three hundred and two pounds.

After this, Jeffreys incurred new debts to the Hammersleys by borrowing or drawing money, until finally he became entirely insolvent. It then occurred to the Hammersleys that by employing the two thousand pounds to pay off the debts incurred by Jeffreys after the 27th of February, and then collecting the notes from the persons who made them, they should be paid; whereas if they allowed the two thousand pounds to go towards the payment of the notes, they would have no means of collecting the subsequent debts. Accordingly, they brought a suit against Knowleys, the brother-in-law of Jeffreys, upon his note for eight hundred pounds.

Erskine, the distinguished English lawyer, was counsel for Knowleys. He maintained that the Hammersleys could only apply the two thousand pounds to the debts subsisting at the time when it was paid; and that therefore they could not recover from Knowleys at most only three hundred and two pounds, the balance which remained due from Jeffreys after the payment of the two thousand pounds.

Lord Kenyon, the judge before whom the case was tried, sustained this view.

"The grounds of the law as to payments," said he, in his charge to the jury, "are very clear. When a person pays money on one account, it must be so applied, and cannot be changed; but the rule is not so strict as to say that the application must be made at the time the payment is made—it may be done at a future time in pursuance of a foregone transaction. But when there is a subsisting demand between two parties, and the debtor makes a payment generally, it would be too much to say that it was not a payment but a deposit. It does not appear to me that it can be so taken, unless the parties agree that it should be so. That this was not so taken by the plaintiffs themselves, (the Hammersleys,) appears. I therefore think that as the subsisting debt on the 27th of February, when Jeffreys paid in the two thousand pounds on account, arose on the note in question, and the two others mentioned in the case, the plaintiffs were bound to ascribe it to that account."

And, according to these instructions, the jury found a verdict for the plaintiffs for three hundred and two pounds only.

It has already been explained that the debtor must make his application, if at all, at the time when the payment is made. The rule is different with respect to the creditor. He is not required to make his application immediately on receiving the money. The reason for this difference is twofold—first, the debtor has full opportunity to consider and decide upon the application which will best advance his interests during days and weeks before he makes the payment. The creditor has no such previous opportunity. In many cases the payment may take him, as it were, by

surprise. And it is but reasonable that he should have leisure after the time of payment to reflect upon and determine his course. Second. The right of the debtor must be terminated whenever the right of the creditor attaches; else there would be continual conflict between the two. Therefore, if the right of the creditor is to attach immediately after the payment, the right of the debtor must then cease; but no such reason applies in the creditor's case.

But how long a time is allowed a creditor? Different Courts have announced different rules upon this subject.

He may make his application at any time after payment, say some.

At any time before the commencement of suit, say others.

At any time before a controversy respecting the application arises, say the Supreme Court of Vermont.

At any time before a settlement of account between the parties, says an early English case.

He may make it within a reasonable time, say a majority of the cases.

Probably the true rule is, that the creditor may exercise his right at any time before a controversy arises between the parties respecting the proper application; but cannot claim it after that time.

We have said that an application on the part of the debtor may be implied from circumstances. The same remark applies in the case of the creditor. It is not necessary that his intention respecting the payment should be expressed in distinct words; and as he does not lie under so strong a necessity to notify the other party of his determination, as does the debtor, it is not so strongly to be urged upon him to define his intention with distinctness, though this is usually to be recommended. Any facts which show clearly that the creditor did in fact decide upon a particular appropriation of the fund—as a credit given for it upon an account, an indorsement of it upon a note, and the like—will suffice. And by crediting it upon an account he is understood to apply it to the items in the order of time in which they accrued. There is, moreover, an important difference between the effect of the charge of a sum paid by the debtor in his account-books and the credit given by the creditor. The entry made by the debtor is not, if standing by itself, a circumstance from which his application can be implied, as has been already explained. But the entries made by the creditor in his books of account, if shown to have been made at their dates, and before the controversy sprung up, are evidence to show his application. Even the commencing a suit upon one of two demands, has been held to be a proper act on the part of the creditor to evince that he has applied a previous payment to the other.

Although the creditor has liberty to defer his application for some time after the payment, yet he is bound by any application which he has once made. He cannot change his mind as his interest changes, and because no controversy has as yet arisen, release his first application and determine upon a new one. On the contrary, when a legal and valid appropriation of a payment has once been made, it can only be changed by assent of both parties. Neither one can make any alteration in it.

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SWEATING CASE—CONTRACT OF AFFREIGHTMENT.

We give below the opinion of Judge Hoffman, of the United States District Court, (California,) in the case of the ship "Live Yankee." The case is one of especial importance to shippers to California, and will be read with interest not only by those engaged in the North Pacific but the India and China trade:—

Adrian & Story vs. the "Live Yankee."

This was a libel on a contract of affreightment. The goods were shipped under the usual bill of lading, but on delivery were found to be saturated with moisture, and much damaged.

It was proved that the goods were stowed in the usual and proper manner, but on the top of the between-decks cargo, and immediately under the upper deck, and that the damage was caused by moisture in the hold of the vessel, or what is usually called sweat. On the general principle by which this cause must be determined this Court has already expressed its opinion.

In the case of *Levy vs. the "Caroline,"* it was considered that the carrier is not liable for damage arising from sweat, unless he is proved to have been guilty of negligence. That so far as relates to damage from this cause, all goods transported on voyages like that from the Eastern States to this port must be considered perishable, or liable to injury, and the general rules with regard to perishable goods must be applied to them. That where damage is attributable to the intrinsic perishability of goods, the carrier is not liable, unless it appear that he has neglected to take proper care of them. These principles must, I think, govern this case.

In the case of *Conroys vs. Scarr*, 19 Carr. and P. R., 383, which was an action against a carrier for damage to goods arising from their bad stowage, it was held that, if on the whole it be left in doubt what the cause of the injury was, or if it may as well be attributable to "perils of the sea" as to negligence, the plaintiff cannot recover. Lord Denman said, in summing up, that "the jury were to see clearly that the defendants were guilty of negligence, before they could find a verdict against them." (*Angell on Car.*, sec. 212.)

In *Cariss vs. Johnson*, in the New York Superior Court, 1848, Judge Oakley said:—

"I do not consider that common carriers are in all cases responsible for not delivering property in a sound state. They are not warrantors that the property shall remain safe and sound. They are only warrantors for its safe delivery, and their further responsibility depends upon whether they use due care and diligence in carrying the property, or that negligence can be proved against them by any omission to do what prudent men should do under such circumstances."

Undoubtedly, when goods are given to a carrier in a sound state, and are damaged when delivered, the presumption of law is that it was by his negligence. But if he can show a peril of the sea sufficient to account for the injury, or a natural cause, such as the leakage, evaporation, or fermentation of liquids, or the rotting or decay of fruits, &c., the burden of proof will then be on the plaintiff to show actual negligence or defective means. If, in such a case, the proof leaves it doubtful what the cause of the injury was, or "unless the jury," in the words of Lord Denman, "see clearly that the defendants have been guilty of negligence," the plaintiff cannot recover.

The degree of diligence to which, in respect of perishable goods, carriers are bound, is stated by Judge Oakley in the case already cited. Their responsibility depends upon whether they use due care and diligence in carrying the property;

or that negligence can be proved against them by any omission to do what prudent men should do under such circumstances.

In the case at bar, the injury is shown to have arisen from sweat or moisture collected in the hold during the voyage. It appears that sweat is incidental to all voyages around the Horn; that, in a greater or less degree, it almost invariably occurs; that it is a cause of damage well known to both shippers and ship owners, and that as yet no certain means have been devised to prevent it; that it is caused by the great variations in temperature necessarily occurring on such voyages; that it depends, in a great degree, upon the nature of the cargo, and is affected by other circumstances, the nature and operation of which are not clearly explained.

It appears, therefore, that damage by sweat arises from natural causes independent of the agency of man, and that it is to be likened to the damage by fermentation, evaporation, spontaneous combustion, &c., which are all more or less owing to the heat or other conditions under which cargo is carried in ships, but for losses by which the carrier is not liable, unless negligence can be proved.

The negligence attributed to the carrier in this case is alleged to consist in his not having provided sufficient ventilation for his ship. So far as his means extended, the master is shown to have used all diligence in ventilating the cargo. The hatches were frequently taken off, and everything was done which during a voyage could be done to preserve it. The ship was provided with one large ventilator, going down to the hold, and communicating with the between-decks by air-holes. She seems, in the opinion of some of the witnesses at least, to have been as well ventilated as ships ordinarily are; but her means of ventilation were inferior to those usually provided in clipper ships—the latter being generally furnished with one or two pairs of ventilators of Emerson's construction.

It is contended that the carrier was negligent in not having had more ventilators, or a system of ventilation such as that recently adopted in most clipper ships.

The carrier in this case undoubtedly supposed that the ventilation provided by him was sufficient to secure all the good effects which may attend ventilation. The question is, has he been guilty of negligence in not having adopted a more thorough system?

On the part of the claimants it is contended that the only preventive of sweat which has been suggested, is of extremely uncertain efficacy. That sweat frequently occurs in well ventilated ships, and that sometimes no traces of it are observed in the least ventilated vessels; that it depends more upon the nature of the cargo than upon any other circumstance; but that it is affected by causes the nature and mode of preventing the operation of which are not ascertained.

In support of these allegations they have called many witnesses of the highest respectability, and possessed of the largest opportunities for observation. Some of them have not hesitated to declare that they consider the ventilation of ships, as commonly practiced, of no use whatever, or positively injurious.

On the other hand, the libelants have attempted to show by the testimony of an equal number of witnesses, that the sweating of ships can be, and is, prevented by the use of a thorough system of ventilation; that such a system has been generally adopted in the clipper ships of recent construction, and that its efficacy has been proved by the condition of the cargoes of several ships now or recently in port. They further showed that ventilation is required by Lloyd's agents in China, in ships taking cargoes of tea and silks, to prevent the effects of steam. It was suggested, however, that the steam thus intended to be prevented was a dry and noxious exhalation, impairing the flavor of teas and injuring the fabric of silks, but was wholly distinct from sweat, which is condensed moisture collected on the lower side of the deck. This point, however, was not clearly established.

Had the libelant in this case clearly established the general recognition of the fact, that a particular system of ventilation will prevent damage by sweat; that that system is universally adopted and is usually effectual, he might claim that

the master in omitting to adopt it had shown a want of ordinary diligence and care. But although he has shown that the clipper ships which frequent this port are usually ventilated in some way more or less thorough, he is met by the fact that cargoes are frequently damaged in the best ventilated ships, and by the testimony of numerous witnesses, who express their disbelief in the efficacy of any system of ventilation whatever.

Before the Court can say that the omission of any particular means of preventing this damage is negligence in the master, it must be satisfied that those means are generally recognized as effectual.

Does, then, the testimony establish this fact?

Whether or not ventilation is of any service, seems to be a mere matter of opinion, nor is it possible for the Court, on the evidence, to come to any certain conclusion, whether the advocates or opponents of ventilation are in the right.

The whole subject seems involved in doubt and obscurity, and the systems of ventilation that have been resorted to appear to have been adopted as experiments or attempts to remove the evil, rather than as a certain and ascertained means of preventing it.

It has been urged with great force by the advocate of the libelants that it is the duty of the Court to exact from the carrier the employment of the latest inventions, and to demand that he keep pace with the last improvements in mechanical art; that by so doing the Court will cherish, promote, and stimulate the application of science to the useful arts, and contribute to their growth and improvement. But the difficulty in this case is that it does not clearly appear that ventilation is an improvement.

On the contrary, several witnesses, whose great experience entitles their opinions to much credit, affirm that in their own ships, and for their own cargoes, they would not adopt any system of ventilation whatever.

Emerson's ventilators, the employment of which was most strongly insisted on by the advocate of the libelants, have been in use for the last five or six years. If they had been found so effectual a remedy as to justify the Court in pronouncing the carrier who fails to adopt them guilty of negligence, is it credible that so many and so respectable persons connected with shipping would be found to disbelieve in that and all other systems of ventilation?

The testimony brought to show a prevailing usage in this port, that the shipper bears a loss by sweat, though it failed to establish a usage in the legal sense of the term, proved this at least: that the general opinion of persons connected with Commerce, shippers and ship owners, is that the ship is not liable. Surely such an opinion would not prevail if there were any well-known, usually-adopted, and generally-recognized means of preventing sweat. And yet the Court must find such to be the fact before it can declare this vessel to be liable.

If it should be determined in this case that every vessel which is not provided with a ventilating apparatus is liable, the principle would include many ships which have avoided injuring their cargoes, though wholly unprovided with ventilation.

In the case of the "Thomas Watson," for example, the rule would operate with peculiar hardship. That vessel, it appears, has made five voyages to this port, and has never damaged a single package, and yet she is not ventilated at all. Surely her owners are justified in assuming that ventilation in her case would be no improvement. If then, on her next voyage, some of her cargo is injured by sweat, her master would be held liable for negligence, under the principle the Court is asked to adopt.

With what propriety can the Court call upon her owners to adopt a system which experience of their own ship has proved to be unnecessary, if not injurious; and how can it make a similar exaction of any of the numerous witnesses of intelligence and experience who profess their disbelief in the efficacy of all systems of ventilation?

It may be said that ventilation may not be requisite in vessels of the size of the "Thomas Watson," while in clipper ships to omit it would be improper.

But this, after all, is but an opinion opposed by many of the most experienced

witnesses, and affording no solid basis for the judgment of a Court. Besides, in the uncertainty and obscurity in which this subject is involved, how can the Court discriminate between vessels of various sizes? When is a vessel large enough to require ventilation? When is she small enough to dispense with it?

Even the witnesses for the libelants, who are the strongest advocates for ventilation, confess that damage by sweat is of constant and daily occurrence; that few ships arrive whose cargoes are not more or less injured by it, and that a still more thorough system of ventilation is required. Could this be so if there did exist, as claimed by the libelants, any generally-known and usually-adopted remedy? If the ship owner is guilty of negligence in this case, for having failed to adopt a generally-recognized remedy for sweat, it should appear that cargoes can be, and usually are, protected by it—and yet the reverse is the fact. How can this remedy be said to be generally recognized as such when it fails so often as to leave the question as yet undetermined whether it is of any use whatever.

It is urged that the ship owners in this case have themselves recognized the expediency of ventilation by introducing it into their own ships, but that the means adopted by them were incomplete and insufficient. But the fact that they have tried what they no doubt considered a sufficient system of ventilation, at least shows that they were not reckless or indifferent on the subject, and the question still recurs—Are there any well-known and generally-recognized means of preventing this kind of damage which they have been guilty of negligence in omitting to use? If there had been any such, it is but fair to suppose they would have been adopted in a ship which the libelants in their letter to the master pronounce “a noble specimen of the merchant marine.”

It is to be observed that in the very letter in which the libelants announce their intention to test the question of the ship's liability for damage by sweat, they make no complaint of insufficient ventilation, or suggest the use of more efficient means to that end. But they propose “the idea of experimenting upon the prevention of sweat by ceiling the between-decks overhead.” They thus seem themselves to admit that no certain or established means of preventing this damage exist, and the remedy is suggested merely as an experiment.

On the whole, I consider that under the evidence in this case it does not appear that the damage has occurred from causes originating in the agency of man; nor that it could, like damage by rats, injuries by worms, etc., have been prevented by proper care; that the injury has arisen from natural causes, the effect of which the Court cannot affirm the carrier could or ought to have guarded against; that it is not to be likened to the case of some unknown and internal defect in the particular vehicle of conveyance, for which the carrier is liable, but it is a risk to which every shipper knows his goods are liable, and which he also knows there are no ascertained and established means of preventing; that he is as competent as the carrier to determine which of the various modes of preventing it are most likely to insure the desired result; and that in shipping in this vessel he assumed the risk of her system of ventilation, as he would have assumed the risk of damage without any ventilation whatever had he shipped his goods in the “Thomas Watson”—and that, inasmuch as he knew the dangers to which his goods would be exposed, he might, had he chosen, have protected them by packing them in a different manner.

But while I feel called upon so to determine in this case and with the present imperfect knowledge of this subject, it is not to be inferred that the same decision will always hereafter be made. On the contrary, if it should hereafter appear that science has suggested, or experience has shown, a remedy or preventive of damage from this source, which shall be generally recognized and adopted, it will be negligence in the carrier to omit its use.

But as at present it cannot be said with any certainty that such a remedy has been discovered, I cannot find the carrier guilty of negligence in having failed to resort to one that has been suggested and used to some extent, but the utility or efficacy of which is still a matter of discussion and dispute.

**SHIPPERS—UNSEAWORTHINESS—THE AMERICAN SHIP ASHLAND BEFORE THE
FRENCH TRIBUNAL OF COMMERCE.**

The Tribunal of Commerce, of Havre, has recently had before it for adjudication, a suit instituted by the captain of the American ship *Ashland*, against a commercial house in that port, under the following circumstances:—

The *Ashland*, Capt. Robert B. Benson, sailed from New Orleans for Havre on the 3d of February, 1854, with a cargo of flour, cotton, and staves. On crossing the bar of the Mississippi the vessel heeled twice, and each time was injured by the towboat. The *Ashland*, however, continued her voyage till, after some days, it was discovered that she leaked more than usual, when she put back to New Orleans. She remained there for five months undergoing repairs, and left on the 15th of August, under the command of Capt. Moore, with her original cargo, saving that 4,000 barrels of flour were replaced by 3,360 bags of maize and to her merchandise.

In her voyage the *Ashland* received fresh damages—had her rudder head broken, and had in hold two feet eight inches of water, which reached the maize and burst the bags containing it; and the captain, in order to get at the pumps, had to elevate them six inches. The *Ashland* again put back and returned to Norfolk, where an examination of the ship and cargo was made by experts, repairs directed, and the maize and 127 bales of cotton, which were damaged, ordered to be unshipped.

She left Norfolk on the 7th of December, and arrived at Havre on the 27th, when Capt. Moore made a demand on the consignees of the cargo for their quota of the repairs of the vessel; and a commissioner was named to estimate the merchandise and the value of the vessel at the time of her two returns. In the meantime Edward Barlow & Co., the consignees of the maize sold at Norfolk, sued the four insurance companies in which it had been insured. The insurers intervened in the suit, and, conjointly with the consignees of the cotton, contended that in the first place it was the raising of the pumps which had damaged the maize and cotton; and in the second place, that the raising of the pumps having been voluntary, it either had taken place for the common safety, in which case the damages sustained by these goods should be classed as gross damages, or that it was not necessary to do it at all, in which case it was a fault for which the captain was responsible.

The consignees, on their side, contended that the vessel on its first setting out was unseaworthy, and that consequently they were not liable for the repairs at New Orleans. Capt. Moore, in accepting the intervention of the insurers, formed against them an incidental demand for payment of the freight which remained due on the maize, contending that they were responsible for the obligations of the shippers, and that the sale of the maize not having produced enough to pay its freight for the whole voyage, they should be compelled to pay the deficit. To this the insurers replied that the freight could only be charged to Norfolk, where the maize was sold, and that even if the demand was entertained, the shippers, whom they had reimbursed for its value, were responsible.

The Court held:—

That there were no reasonable presumptions to suppose the vessel unseaworthy when she first left New Orleans; that the elevating of the pumps was an ordinary operation, and did not constitute either a sacrifice made for the common safety, or a fault on the part of the captain; that the shippers, not the consignees or insurers, are responsible for the balance of the freight on the maize for the whole voyage; that they are liable for the repairs done in Norfolk, but not for the expenses of the return to New Orleans; that the captain is entitled to the whole of the freight on the cotton and maize sold in the course of the voyage on account of damage; that the private damages to the vessel, recognized and proved at Norfolk, were 77,820 francs, and the general damages, 26,887 francs: and that towards the latter sum the vessel and freight should contribute 6,237 francs, and the cargo 20,650 francs.

LOSS BY FIRE—"DANGERS OF RIVERS ONLY EXCEPTED."

An important legal decision was made at St. Louis in October, 1855, touching the rights of steamboat owners and merchants. The parties were—Memphis Insurance Company vs. Oliver Garrison and Daniel R. Garrison. The case is thus stated:—

In the year 1849 a large amount of cotton, valued at \$16,290, was shipped at Memphis and other points in Tennessee, for New Orleans, on the steamboat Convoy, of which boat the defendants were owners.

A bill of lading was given by the boat, under which the cotton was to be carried and delivered, "dangers of rivers only excepted."

The boat and cargo were destroyed by fire, which, it was admitted, did not arise from any fault or negligence of the master, crew, agent, or owners.

The Memphis Insurance Company had insured the cotton against "loss by fire." They paid the loss, and brought this suit against the owners of the boat to recover the value of the cotton, claiming to be equitably subrogated, or entitled to all the rights of the original owners of such cotton.

The Court held:—

1st. That the complainants were entitled to sue in equity, to recover, if the defendants were liable.

2d. That the exception in the bill of lading of "dangers of the river only," did not include fire—fire was not a danger of the river within the meaning of the bill of lading, though it did not proceed from any fault or negligence of those managing the boat.

A decree was accordingly rendered against the defendants for the value of the cotton.

The St. Louis *Democrat* says of it:—

"This decision is highly important to our commercial people generally, and will occasion much comment among steamboat owners and others, North and South. The case hangs upon a very nice point, and perhaps a majority will not be willing to admit the distinction made between dangers of the river and dangers on the river. The question will, doubtless, be carried to the Supreme Court."

COMMERCIAL CHRONICLE AND REVIEW.

RETURNING CONFIDENCE IN THE STOCK AND MONEY MARKET—FURTHER PARTICULARS OF THE LATE DEPRESSION—HOARDING OF SPECIE—FLUCTUATIONS IN STOCKS AND EXCHANGE—REVENUE OF THE COUNTRY—COMPARATIVE STATEMENTS OF THE COMMERCE AND NAVIGATION OF THE UNITED STATES FOR THE FISCAL YEAR ENDING JUNE 30, 1855—THE BANK MOVEMENT IN BOSTON, NEW YORK, AND PHILADELPHIA—THE GOLD PRODUCT AND DEPOSITS AT THE NEW YORK ASSAY OFFICE—FOREIGN IMPORTS AT NEW YORK FOR OCTOBER, AND SINCE JANUARY 1ST—IMPORTS OF DRY GOODS—EXPORTS FROM NEW YORK TO FOREIGN PORTS FOR OCTOBER, AND FROM JANUARY 1ST—EXPORTS OF DOMESTIC PRODUCE, ETC.

THE general distrust, almost amounting to a panic, which ushered in the first days of November, has given place to a more cheerful feeling, and the forebodings then heard on every side from the timid, have none of them been realized. There has been no real scarcity of money, and the only suffering was from "looking for evil," proving the truth of the adage that "ills which never happen chiefly make us wretched." The advance of interest to 6 per cent by the Banks of England and France, with the brief excitement it occasioned in the foreign market, led at once to the prediction of a suspension of specie payments

in both countries; and the bear party in our leading commercial markets, for their own purposes, rang the changes upon this alarming theme, until the public mind became feverish and excited, and securities of all descriptions rapidly declined. In New York there seemed at first to be no bottom to the depression—stocks daily declining, and all holders who owed borrowed money pressing their sales. There came with this decline a general distrust of foreign commercial bills, and a wide difference was made for specie remittances. Many bankers also preferred to ship specie with the chances of an increased premium for it in Europe.

The alarm first originated in London, owing to the constant current of specie to France, even when exchanges were against it, as noticed at the close of last month's review. This drain continued, and many have accounted for it by supposing that it was the result of a gigantic movement on the part of Russia, either to obtain a supply of specie for her own uses, or to cripple the Allies by drawing off their resources. It appears to us, however, far more probable that the disappearance of the precious metals is owing to the hoarding by the people—a process accelerated by the excitement it occasioned. The fall in the prices of stocks in this country was, as we have said, very rapid, some of the leading railroad shares falling \$12 to \$13 per share in about two weeks; but the recovery has been nearly as rapid, although the former price has not yet been reached.

The drain of gold from hence is now checked, the increased demand for provisions and the shipments of cotton having furnished an ample supply of foreign exchange. The bullion now arriving from California will be turned into coin, and go to swell the accumulation in our banks and the amount in circulation among the people. Whether the price of exchange will fall so low as to warrant the importation of specie, is not yet clear. This would undoubtedly be the case, but for the dread of losing specie in London, which will affect the demand for our produce, and especially our cotton, the moment the current sets in this direction.

The government have large payments to make from the Treasury this fall, but the revenue of the country is ample, and is now increasing. The cash duties received at this port for the month of October are largely in excess of the corresponding total for the same month in either of the preceding years. The aggregate since January 1st, however, is \$5,609,285 65 less than for the first ten months of 1854, and \$8,255,470 71 less than for the corresponding period of 1853:—

CASH DUTIES RECEIVED AT NEW YORK.

	1852.	1853.	1854.	1855.
First quarter.....	\$7,617,887 72	\$11,125,500 47	\$10,873,699 31	\$7,588,288 21
Second quarter....	6,632,425 16	10,041,829 08	8,864,261 45	6,711,657 50
Third quarter.....	10,281,190 03	13,613,105 14	12,699,868 05	11,601,517 60
In October	2,392,109 57	2,705,694 83	2,402,115 10	3,329,194 95

Total from Jan. 1st. \$26,923,612 48 \$37,486,128 97 \$34,839,943 91 \$29,230,658 26

The foreign imports at all the ports of the United States, (including, of course, California and Oregon,) for the fiscal year ending June 30, 1855, were \$261,382,960, against \$305,780,253 for the preceding year, showing a decline

of \$44,397,293. The total exports from the United States to foreign ports for the fiscal year ending June 30, 1855, were \$275,156,846, against \$278,241,064 for the preceding year, showing a decline of only \$3,084,218. It will be seen from this, that while for the year 1854 the imports exceeded the exports \$27,539,189, for the last year the exports exceeded the imports \$13,773,886.

IMPORTS INTO THE UNITED STATES FROM FOREIGN PORTS :—

Year ending June 30.	Dutiable.	Free goods.	Specie & bullion.	Total.
1845.....	\$95,106,724	\$18,077,598	\$4,070,242	\$117,254,564
1846.....	96,924,058	20,990,007	3,777,732	121,691,797
1847.....	104,773,002	17,651,347	24,121,289	146,545,638
1848.....	132,282,325	16,356,379	6,360,224	154,998,928
1849.....	125,479,774	15,726,425	6,651,240	147,857,439
1850.....	155,427,936	18,081,590	4,628,792	178,138,318
1851.....	191,118,345	19,652,995	5,453,592	216,224,932
1852.....	183,252,508	24,187,890	5,505,044	212,945,442
1853.....	236,595,113	27,182,152	4,201,382	267,978,647
1854.....	272,546,431	26,327,660	6,906,162	305,780,253
1855.....	221,292,624	36,430,524	3,659,812	261,382,960

The above shows an increase during the last year of \$10,102,864 in the imports of free goods, but a falling off of \$51,253,807 in dutiable merchandise, and \$3,246,350 in specie. The course of the import trade for the last three years is worthy of especial notice. The year ending June 30, 1853, shows an increase over the previous year of \$55,033,305; and the year 1854 showed an increase over 1853 of \$37,801,606—making a gain of \$92,834,911 in two years. For the last year the decline, as already stated, is \$44,397,293, which brings the imports below the total for the year 1852-3. We annex also a comparative table of export —

EXPORTS FROM THE UNITED STATES TO FOREIGN PORTS.

Year ending June 30.	Domestic produce.	Foreign produce.	Specie and bullion.	Total.
1845.....	\$98,455,330	\$7,584,781	\$8,606,495	\$114,646,606
1846.....	101,718,042	7,865,206	3,905,268	113,488,516
1847.....	150,574,844	6,166,754	1,907,024	158,648,622
1848.....	130,203,709	7,986,806	15,841,616	154,032,131
1849.....	131,710,081	8,641,091	5,404,648	145,755,820
1850.....	134,900,233	9,475,493	7,522,994	151,898,720
1851.....	173,620,138	10,295,121	29,472,752	213,388,011
1852.....	154,931,147	12,037,043	42,674,135	209,658,366
1853.....	189,869,162	13,096,213	27,486,875	230,976,157
1854.....	215,157,504	21,661,137	41,422,423	278,241,064
1855.....	192,751,135	26,158,368	56,247,343	275,156,846

While the imports of the last year have fallen below even the total for 1852-3, the exports are nearly forty-five millions greater than for that year. Of the total exports of specie for the last year, \$53,957,418 were of domestic production, and \$2,289,925 of foreign. The shipments of domestic produce, exclusive of specie, were \$22,406,369 less than for the preceding year, while there is an increase of \$4,497,231 in the exports of foreign produce, and \$14,824,920 in the exports of specie.

We have also prepared from the same official source full statements of the tonnage statistics, showing the Commerce with foreign ports at all of the ports of the United States :—

NUMBER OF VESSELS, WITH THEIR TONNAGE AND CREWS, WHICH ENTERED INTO THE PORTS OF THE UNITED STATES FROM FOREIGN PORTS, FOR THE YEAR ENDING JUNE 30TH, 1855.

	Number.	Tons.	CREW.	
			Men.	Boys.
American vessels.....	9,315	3,861,391	137,251	557
Foreign vessels.....	10,012	2,083,948	99,891	916
Total entered.....	19,327	5,945,339	237,142	1,473

SIMILAR STATEMENT FOR YEAR ENDING JUNE 30, 1854.

American vessels.....	9,455	3,752,115	135,927	726
Foreign vessels.....	9,648	2,132,224	100,248	1,212
Total entered.....	19,103	5,884,339	236,170	1,938

NUMBER OF VESSELS, WITH THEIR TONNAGE AND CREWS, WHICH CLEARED FROM ALL THE PORTS OF THE UNITED STATES FOR FOREIGN PORTS, DURING THE YEAR ENDING JUNE 30TH, 1855.

	Number.	Tons.	CREW.	
			Men.	Boys.
American vessels.....	9,569	4,068,979	142,938	739
Foreign vessels.....	9,921	2,110,322	101,978	900
Total cleared.....	19,490	6,179,301	244,716	1,639

SIMILAR STATEMENT FOR YEAR ENDING JUNE 30TH, 1854.

American vessels.....	9,570	3,911,392	141,028	797
Foreign vessels.....	9,503	2,107,802	98,617	1,196
Total cleared.....	19,073	6,019,194	239,645	1,993

We also annex a statement showing in what class of vessels the imports and exports were carried during the year ending June 30, 1855:—

	In Amer. vessels.	In for. vessels.	Total.
Imports.....	\$202,234,900	\$59,233,620	\$261,468,520
Exports.....	203,250,562	71,906,284	275,156,846
Total.....	\$405,485,462	\$131,139,904	\$536,625,366

This shows that out of \$536,625,366 in value transported between American and foreign ports during the last year, over three-fourths were carried in American bottoms, the freight on which is to the credit of this country, whether collected here or abroad.

The loans and discounts of the banks have generally decreased, and the specie basis is almost uniformly lower. The New York city banks have nearly one million of dollars more specie than on the last of September, and yet their discount lines are five millions lower. The deposits have run down also, owing in part to the drawing down of country bank balances. We continue our statement of the weekly averages from the opening of the year:—

WEEKLY AVERAGES NEW YORK CITY BANKS.

Date.	Capital.	Loans and Discounts.	Specie.	Circulation.	Deposits.
Jan. 6, 1855	\$48,000,000	\$82,244,706	\$13,596,963	\$7,049,982	\$64,982,158
Jan. 13.....	48,000,000	83,976,081	15,488,525	6,686,461	67,303,398
Jan. 20.....	48,000,000	85,447,998	16,372,127	6,681,355	69,647,618
Jan. 27.....	48,000,000	86,654,657	16,697,260	6,739,823	20,136,618
Feb. 3.....	48,000,000	88,145,697	17,439,196	7,000,766	72,923,317
Feb. 10.....	48,000,000	89,862,170	17,124,391	6,969,111	73,794,342
Feb. 17.....	48,000,000	90,850,031	17,339,085	6,941,606	75,193,636

Date.	Capital.	Loans and discounts.	Specie.	Circulation.	Deposits.
Feb. 24.....	48,000,000	91,590,504	16,370,875	6,963,562	74,544,721
March 3....	48,000,000	92,386,125	16,531,279	7,106,710	75,958,344
March 10...	48,000,000	92,331,789	16,870,669	7,131,998	76,259,484
March 17...	48,000,000	92,447,345	16,933,932	7,061,018	76,524,227
March 24....	48,000,000	93,050,773	16,602,729	7,452,231	76,289,923
March 31....	47,683,415	93,634,041	16,018,105	7,337,633	75,600,186
April 7...	47,855,665	94,499,394	14,968,004	7,771,534	77,318,908
April 14...	47,855,665	94,140,399	14,890,979	7,523,528	77,282,242
April 21....	47,855,665	93,632,893	14,355,041	7,510,124	75,744,921
April 28....	47,855,665	92,505,951	14,282,424	7,610,985	76,219,951
May 5.....	47,855,665	93,093,243	14,325,050	8,087,609	78,214,169
May 12....	47,855,665	91,642,498	14,585,626	7,804,977	75,850,592
May 19....	47,855,665	91,675,500	15,225,056	7,638,630	77,351,218
May 26....	48,684,730	91,160,518	15,314,532	7,489,637	75,765,740
June 2.....	48,684,730	91,197,653	15,397,674	7,555,609	76,343,236
June 9.....	48,684,730	92,109,097	15,005,155	7,502,568	77,128,789
June 16....	48,633,380	93,100,385	14,978,558	7,452,161	77,894,454
June 23....	48,633,380	94,029,425	14,705,629	7,385,653	79,113,135
June 30....	48,633,380	95,573,212	15,641,970	7,394,964	81,903,965
July 7.....	48,633,380	97,852,491	15,381,093	7,743,069	85,647,249
July 14....	48,833,380	98,521,002	16,576,506	7,515,724	85,664,186
July 21....	48,833,380	99,029,147	15,918,999	7,407,086	82,079,590
July 28....	48,833,380	99,083,799	15,920,976	7,409,498	81,625,788
Aug. 4.....	48,833,380	100,118,569	15,298,358	7,642,903	83,279,990
Aug. 11....	48,833,380	100,774,209	15,280,669	7,714,401	83,141,320
Aug. 18....	48,833,380	101,154,060	14,649,245	7,610,106	81,948,671
Aug. 25....	48,833,380	100,604,604	13,326,378	7,582,095	81,278,558
Sept. 1....	48,833,380	100,436,970	12,852,823	7,620,178	81,037,210
Sept. 8....	48,833,380	100,273,733	12,006,625	7,861,143	80,442,478
Sept. 15....	48,833,380	99,397,009	12,213,240	7,721,825	80,510,306
Sept. 22....	48,833,380	98,581,734	11,655,391	7,716,492	80,105,147
Sept. 29....	48,833,380	97,385,225	9,919,124	7,724,970	76,818,109
Oct. 6.....	48,833,380	95,515,021	11,110,687	7,853,217	77,582,626
Oct. 13....	48,833,380	95,059,420	11,138,878	7,840,114	76,615,807
Oct. 20....	48,833,380	95,103,376	12,461,723	7,888,164	77,852,551
Oct. 27....	48,833,380	94,216,372	11,163,521	7,828,489	76,974,856
Nov. 3.....	48,833,380	93,369,079	11,106,298	8,071,508	77,787,570
Nov. 10....	48,833,380	92,454,290	10,855,526	8,088,608	75,762,403

NEW YORK STATE BANKS. The following summary shows the aggregate resources and liabilities of the banks in this State, as exhibited by their reports to the Superintendent of the Banking Department, of their condition on the morning of the 29th September last. At that date there were 284 banks, including one branch, and the Camden and Farmers' Bank of Mina, which reported, although closing up and doing no business:—

RESOURCES.	
Loans and discounts	\$165,946,989
Overdrafts	450,116
Due from banks	12,666,517
Due from directors, including absolute and contingent liabilities*.....	13,744,143
Due from brokers*.....	4,583,651
Real estate	5,857,537
Specie.....	10,910,330
Cash items	18,090,545
Stocks and promissory notes.....	20,690,150
Bonds and mortgages	7,886,328
Bills of solvent banks	2,958,038
Bills of suspended banks	517
Loss and expense account.....	1,154,466

* These items, except \$55,122, do not go into the aggregate amount of resources.

LIABILITIES.

Capital	\$85,589,590
Circulation	31,340,003
Profits	11,073,987
Due to banks	26,045,439
Due individuals and corporations, other than banks and depositors....	1,097,744
Due Treasurer of the State of New York.....	3,241,469
Due depositors on demand.....	85,610,926
Due to others, not included in either of the above heads.....	2,517,758

The Boston banks show a very moderate change in the same direction:—

WEEKLY AVERAGES AT BOSTON.

	October 22.	October 29.	November 5.	November 12.	November 19.
Capital	\$32,710,000	\$32,710,000	\$32,710,000	\$32,710,000	\$32,710,000
Loans and discounts..	54,289,500	53,645,465	53,113,989	52,257,900	51,340,000
Specie.....	2,645,000	2,574,999	2,426,147	2,127,500	2,128,000
Due from other banks	8,411,853	8,638,264	8,754,318	8,374,000	8,554,000
Due to other banks..	5,373,400	5,575,753	5,122,330	4,943,000	4,685,700
Deposits	15,970,000	15,489,090	15,347,107	13,980,600	13,694,690
Circulation	8,607,000	8,614,839	8,590,980	8,651,900	8,448,000

The Philadelphia banks, with the exception of the Bank of Pennsylvania and North America, (whose regular period is later,) have declared their usual semi-annual dividends, which we annex in comparison with the last two:—

	Capital.	Nov., '54. Per cent.	May, '55. Per cent.	Nov., '55. Per cent.	Total.
Farmers' and Mechanics'.....	\$1,250,000	5	5	5	62,500
Girard	1,250,000	3	3	3	37,500
Philadelphia.....	1,150,000	5	7	5	57,500
Commercial.....	1,000,000	5	5	5	50,000
Mechanics'.....	800,000	5	6	6	48,000
Western	500,000	10	6	7	35,000
Northern Liberties	350,000	6	6	6	21,000
Manufacturers' and Mechanics'....	300,000	4	5	5	15,000
Southwark	250,000	5	5	5	12,000
Kensington.....	250,000	6	6	9	22,500
Bank of Commerce	250,000	5	5	5	12,500
Penn Township	225,000	5	5	5	11,250
Tradesmen's	150,000	5	5	5	7,500
	<u>\$7,725,000</u>	<u>70</u>	<u>69</u>	<u>71</u>	<u>392,250</u>

The Western Bank, in the year-and-a-half that our table covers, has divided 23 per cent; the Kensington Bank, 21 per cent; the Northern Liberties, 18; the Mechanics', 18; the Philadelphia, 17; the Farmers' and Mechanics', 15; Commercial, 15; Southwark, 15; Bank of Commerce, 15; Penn. Township, 15; Tradesmen's, 15; Manufacturers' and Mechanics', 14; and Girard Bank, 9.

The gold product of California is undiminished, but the mint at San Francisco is in condition to coin several millions per month, and large shipments are made direct to Europe, so that the receipts at our ports are not quite as large as for last year. The Philadelphia mint has been closed for repairs. The following will show the receipts at the Assay Office in New York for October:—

DEPOSITS AT THE ASSAY OFFICE, NEW YORK, FOR THE MONTH OF OCTOBER.

	Gold.	Silver.	Total.
Foreign coins.....	\$3,000 00	\$10,400 00	\$13,400 00
Foreign bullion	21,000 00	9,300 00	30,300 00
Domestic bullion.....	3,626,000 00	26,094 00	3,652,094 00
Total deposits	<u>\$3,650,000 00</u>	<u>\$45,794 00</u>	<u>\$3,695,794 00</u>
Total deposits payable in bars.....			\$2,960,000 00
Total deposits payable in coins.....			735,794 00

Included in the deposits were \$230,000 California mint gold bars, and \$94 in native Lake Superior silver.

The foreign Commerce of the country is increasing, as already noticed in our general remarks. The imports at New York from foreign ports for the month of October are \$4,573,993 larger than for October of last year, \$3,422,106 larger than for the same period of 1853, and \$6,957,158 larger than for the same time in 1852. This is in accordance with the intimation given in our last month's report, and with public expectation. The imports toward the close of last year, following as they did the extreme activity of the previous twelvemonth, were unusually small. The increase for the month is about two-thirds of it in dry goods, and the remainder in general merchandise.

FOREIGN IMPORTS AT NEW YORK FOR OCTOBER.

	1852.	1853.	1854.	1855.
Entered for consumption.....	\$7,775,614	\$9,637,601	\$7,645,071	\$12,088,621
Entered for warehousing.....	594,426	1,866,866	2,210,646	2,379,886
Free goods.....	215,143	422,156	1,086,467	1,082,125
Specie and bullion.....	62,690	256,302	88,854	54,399
Total entered at the port.....	\$8,647,873	\$12,182,925	\$11,031,038	\$15,605,031
Withdrawn from warehouse.....	1,256,570	1,188,983	2,070,544	1,597,487

Notwithstanding the increase during the last month, the total foreign imports since January 1st are \$33,034,253 less than for the corresponding ten months of last year, and \$37,194,902 less than for the same period of 1853, and \$19,574,867 less than for the same period of 1852, as will appear from the following:—

FOREIGN IMPORTS AT NEW YORK FOR TEN MONTHS FROM JANUARY 1ST.

	1852.	1853.	1854.	1855.
Entered for consumption.....	\$91,080,891	134,775,790	120,408,905	96,753,676
Entered for warehousing.....	7,134,316	19,258,112	26,780,359	21,567,338
Free goods.....	10,384,813	11,886,972	14,204,525	11,835,119
Specie and bullion.....	2,214,644	2,163,559	2,029,995	733,398

Total entered at the port...	\$110,814,664	167,584,433	163,423,784	130,389,531
Withdrawn from warehouse.	13,463,496	12,871,001	19,607,761	21,068,896

There has been a steady falling off in the receipts of specie and bullion, but this is a very small item. The entries for warehousing have also decreased, but the withdrawals for consumption have increased.

More than half the increase in the imports for the last month is in dry goods. One record of the latter item is kept in even weeks, and the total is given for the four weeks ending October 31st. This shows an increase for the month of \$3,118,330, as compared with the same period of last year; \$1,016,894, as compared with the corresponding period in 1853; and \$2,218,709, as compared with October, 1852. This increase extends to all descriptions of goods, as will appear from the following comparative summary:—

IMPORTS OF FOREIGN DRY GOODS AT NEW YORK IN OCTOBER.

ENTERED FOR CONSUMPTION.

	1852.	1853.	1854.	1855.
Manufactures of wool.....	\$1,077,608	\$1,270,014	\$578,508	\$1,738,240
Manufactures of cotton.....	387,454	505,323	256,956	770,574
Manufactures of silk.....	1,317,305	1,397,424	631,959	1,666,267
Manufactures of flax.....	413,464	436,059	342,655	718,110
Miscellaneous dry goods.....	168,379	292,435	245,993	426,027
Total entered for consumption.	\$3,364,210	\$3,901,305	\$2,056,071	\$5,319,215

WITHDRAWN FROM WAREHOUSE.

	1852.	1853.	1854.	1855.
Manufactures of wool	\$49,936	\$114,578	\$336,435	\$59,112
Manufactures of cotton	28,798	49,881	62,319	57,360
Manufactures of silk	141,266	53,824	166,019	136,651
Manufactures of flax	30,519	22,597	45,483	43,912
Miscellaneous dry goods	32,556	17,964	18,863	32,447
Total	\$283,075	\$258,844	\$629,119	\$329,482
Add entered for consumption	3,364,210	3,901,305	2,056,071	5,319,218
Total thrown on the market ...	\$3,647,285	\$4,160,149	\$2,685,190	\$5,648,700

ENTERED FOR WAREHOUSING.

	1852.	1853.	1854.	1855.
Manufactures of wool	\$86,195	\$208,009	\$193,851	\$120,575
Manufactures of cotton	57,130	244,155	70,586	188,752
Manufactures of silk	19,718	278,991	111,091	69,525
Manufactures of flax	27,984	155,144	179,705	108,412
Miscellaneous dry goods	53,776	22,624	98,088	21,240
Total	\$244,803	\$909,523	\$653,321	\$508,504
Add entered for consumption	3,364,210	3,901,305	2,056,071	5,319,218
Total entered at the port	\$3,609,013	\$4,810,828	\$2,709,392	\$5,827,722

Notwithstanding this increase during the last month, the total receipts of dry goods at this port since January 1st are \$19,362,600 less than for the same time last year, \$25,793,260 less than for the same time of 1853, and \$3,505,171 less than for the same period of 1852:—

IMPORTS OF FOREIGN DRY GOODS AT THE PORT OF NEW YORK FOR TEN MONTHS, FROM JANUARY 1ST.

ENTERED FOR CONSUMPTION.

	1852.	1853.	1854.	1855.
Manufactures of wool	\$13,156,688	\$22,989,636	\$17,209,293	\$14,762,483
Manufactures of cotton	8,294,133	12,722,383	12,559,194	7,284,754
Manufactures of silk	18,337,561	28,922,551	23,398,759	18,878,589
Manufactures of flax	5,194,736	6,835,193	5,921,826	4,893,680
Miscellaneous dry goods	3,644,199	4,750,538	4,932,265	4,503,056
Total	\$48,627,317	\$76,220,301	\$64,021,337	\$50,322,562

WITHDRAWN FROM WAREHOUSE.

	1852.	1853.	1854.	1855.
Manufactures of wool	\$1,517,239	\$1,912,709	\$3,879,052	\$2,271,944
Manufactures of cotton	1,319,801	931,970	2,451,505	2,041,920
Manufactures of silk	1,779,793	1,217,435	2,780,003	2,485,211
Manufactures of flax	745,126	230,754	771,476	1,107,080
Miscellaneous dry goods	329,108	299,697	350,425	740,646
Total withdrawn	\$5,691,007	\$4,592,565	\$10,232,461	\$8,646,801
Add entered for consumption ...	48,627,317	76,220,301	64,021,337	50,322,562
Total thrown upon the market.	\$54,318,324	\$80,812,866	\$74,253,798	\$58,969,363

ENTERED FOR WAREHOUSING.

	1852.	1853.	1854.	1855.
Manufactures of wool	\$1,185,072	\$2,410,638	\$4,599,887	\$1,569,684
Manufactures of cotton	802,609	1,404,849	2,424,134	1,440,562
Manufactures of silk	1,832,565	1,614,669	3,358,043	1,815,763
Manufactures of flax	328,368	453,823	1,076,589	880,309
Miscellaneous dry goods	366,575	337,157	530,287	618,797
Total	\$4,515,189	\$6,220,636	\$11,988,940	\$6,325,115
Add entered for consumption	48,627,317	76,220,301	64,021,337	50,322,562

Total entered at the port . . . \$53,142,506 \$82,440,937 \$76,010,277 \$56,647,677

Turning to the export statistics, we find the statement far more favorable than expected. The shipments of specie and bullion during the month have fallen off two-thirds; that is, over \$2,000,000, while the exports of domestic produce have increased nearly \$2,000,000. The total exports for the month to foreign ports, exclusive of specie, are \$1,730,781 more than for the same month of last year, \$604,968 more than for October, 1853, and \$2,782,039 more than for October, 1852:—

EXPORTS FROM NEW YORK TO FOREIGN PORTS FOR THE MONTH OF OCTOBER.

	1852.	1853.	1854.	1855.
Domestic produce	\$3,497,874	\$5,459,401	\$4,672,017	\$6,614,146
Foreign merchandise (free)	82,886	63,687	128,780	31,505
Foreign merchandise (dutiable)	484,801	719,534	316,012	201,939
Specie	2,452,301	4,757,972	3,359,398	1,188,109
Total exports	\$6,517,862	\$11,000,594	\$8,476,207	\$8,035,699
Total, exclusive of specie	4,065,561	6,242,622	5,116,809	6,347,590

For the first time during the current year the total exports to foreign ports, exclusive of specie, have overtaken the shipments for the preceding year, the aggregate since January 1st being \$636,503 in excess of the corresponding ten months of 1854, \$2,681,203 more than for the same period of 1853, and \$25,087,126 more than for the same period of 1852. The exports of specie since January 1st are \$7,935,836 less than for the first ten months of last year:

EXPORTS FROM NEW YORK TO FOREIGN PORTS FOR TEN MONTHS FROM JANUARY 1ST.

	1852.	1853.	1854.	1855.
Domestic produce	\$34,239,486	\$45,884,119	\$47,897,861	\$46,422,445
Foreign merchandise (free)	799,512	1,217,683	1,445,079	3,489,470
Foreign merchandise (dutiable)	3,768,974	4,112,093	3,915,655	3,983,183
Specie	23,106,137	19,765,730	33,563,141	25,627,806
Total exports	\$61,914,109	\$70,979,625	\$86,821,736	\$79,522,408
Total, exclusive of specie	38,807,972	51,213,895	53,258,595	53,895,098

The exports are now rapidly increasing, but will probably be partially checked by the closing of canal navigation. There are already indications that the shippers are growing weary, and a number who have ventured have since repented, and sold out their invoices on shipboard without any profit. With a slight reduction in price, our breadstuffs must still be largely wanted, and our farmers can afford to make a concession and still reap enormous profits. The wheat which has been shipped has averaged more than \$2 per bushel at our seaports, and that with the freight is a higher rate than the middle and lower classes of

Europe can afford to pay. We annex a table showing the shipments of certain leading articles of domestic production from New York to foreign ports from January 1st to November 20th:—

EXPORTS OF CERTAIN ARTICLES OF DOMESTIC PRODUCE FROM NEW YORK TO FOREIGN PORTS FROM JANUARY 1ST TO NOVEMBER 20TH:—

	1854.	1855.		1854.	1855.
Ashes—pots....bbls.	8,827	11,977	Naval stores....bbls.	578,973	578,892
pearls.....	1,819	2,158	Oils—whale....galls.	280,187	257,150
Beeswax.....lbs.	234,389	147,081	sperm.....	604,574	703,845
			lard.....	28,060	95,908
			linseed.....	7,038	11,000
<i>Breadstuffs—</i>					
Wheat flour...bbls.	822,392	711,319			
Rye flour.....	10,354	19,631	<i>Provisions—</i>		
Corn meal.....	64,553	67,377	Pork.....bbls.	96,119	139,827
Wheat.....bush.	1,581,810	2,118,456	Beef.....	52,256	59,343
Rye.....	315,158	342,365	Cut meats, lbs....	16,196,048	15,315,193
Oats.....	40,554	30,082	Butter.....	1,925,963	897,781
Corn.....	3,863,274	3,493,894	Cheese.....	2,837,759	5,895,116
Candles—mold..boxes	47,420	50,847	Lard.....	13,015,020	7,891,997
sperm.....	9,409	9,781	Rice.....trcs	21,545	19,581
Coal.....tons	21,606	13,124	Tallow.....lbs.	5,095,620	1,191,308
Cotton.....bales	282,159	260,045	Tobacco, crude...pkgs	33,758	29,173
Hay.....	3,476	5,222	Do., manufactured.lbs.	3,204,471	4,550,590
Hops.....	5,855	8,786	Whalebone.....	1,532,944	1,920,032

It will be seen from this that the shipments of flour are nearly as large as for the same time last year, while the exports of wheat have considerably increased. The clearances of Indian corn are large, but not quite equal to the corresponding total for last year. There is still an active demand for wheat and flour for export, and a fair shipping demand also for corn. A good many have been looking for a sudden collapse in the prices of breadstuffs, anticipating that we should overload the markets of Europe, and the reaction be disastrous. Up to the date we write, however, there has been no indication of such a change, and prices have been very high. The supplies from the West continue to pour in toward the seaboard, and if we might have a month more of navigation, all the surplus crop might be ready for shipment. Meantime the prospects for our own country are daily growing more favorable. The high prices of food may pinch in some quarters, but when they are based on large sales for export, they are borne more cheerfully, as they yield us a golden return. The whole course of trade since the commencement of the war has tended to draw the attention of the world to American markets, and we shall ever after this occupy a more prominent position among those who feed the world.

NEW YORK COTTON MARKET FOR THE MONTH ENDING NOVEMBER 23.

PREPARED FOR THE MERCHANTS' MAGAZINE BY UHLHORN & FREDERICKSON, BROKERS, NEW YORK.

Our last report closed on the 26th of October, since which prices have varied in favor of holders to the extent of $\frac{1}{4}$ c. to $\frac{1}{2}$ c. per pound. The total sales for the four weeks previous to date being 25,000 bales, of which our own manufacturers—who are quite bare of stock—have taken fully one-half; the balance has been principally for export, there being but little done on speculation. The foreign accounts received towards the close of the month being of a favorable character, and the wants of our own spinners being urgent, holders have been

enabled, in connection with an exceedingly small stock, to obtain the above advance on rather an indifferent grade.

The Southern accounts received during the past month represent a favorable aspect as to the probable extent of the crop, and a result materially exceeding that of any former period is by many well-informed parties confidently expected. The receipts to present time, although not indicative as to the result by any means, show an increase over last year of 245,000 bales. The total foreign export shows a gain of 171,000 bales—the increase to Great Britain being 134,000 bales; to France, 12,000 bales; other foreign ports, 25,000 bales. This shows a fair commencement for rather a late opening season at the South, with low rivers and yellow fever. Prices paid have also been remunerative for the producer, notwithstanding the high rates of freight. Operations in cotton in transitu have thus far this year been quite limited, but as the system was found last year to work favorably, it is quite probable that an extensive business will be transacted in this branch of the trade as the season progresses.

For the week ending November 2d, owing to reports of a killing frost at the South, our market showed a slight gain on the quotations of the previous week. The home demand also gave some activity, but at the close of the week, there being no improvement at the South in consequence of the above report, our market closed quiet at the following, with sales for the week of 6,000 bales:—

PRICES ADOPTED NOVEMBER 2D FOR THE FOLLOWING QUALITIES:—

	Upland.	Florida.	Mobile.	N. O. & Texas.
Ordinary	8	8	8½	8½
Middling	9	9½	9½	9½
Middling fair	9½	9½	10	10½
Fair	10	10½	10½	11

The business for the week ending November 9th amounted to 6,500 bales, and under foreign advices of ½d. decline, our market advanced fully ¼c. per pound. This upward movement is to be ascribed solely to our small stock and very light imports. The market closed firm, with small offerings, at the following:—

PRICES ADOPTED NOVEMBER 9TH FOR THE FOLLOWING QUALITIES:—

	Upland.	Florida.	Mobile.	N. O. & Texas.
Ordinary	8½	8½	8½	8½
Middling	9½	9½	9½	9½
Middling fair	9½	9½	10½	10½
Fair	10½	10½	10½	11½

The sales for the week ensuing were 7,500 bales, at an advance of ¼c. to ½c. per pound, owing to the demand for the home trade and for the continent. With a decreasing stock and light imports, holders were indifferent sellers, and the market closed with much firmness at the following quotations:—

PRICES ADOPTED NOVEMBER 16TH FOR THE FOLLOWING QUALITIES:—

	Upland.	Florida.	Mobile.	N. O. & Texas.
Ordinary	8½	8½	8½	8½
Middling	9½	9½	9½	9½
Middling fair	10	10½	10½	10½
Fair	10½	10½	11	11½

For the week closing at date, the stringency of holders retarded operations, and the transactions were limited to forced purchasers. The foreign advices per Canada reporting ½d. advance, added to the firmness of sellers without imparting

increased activity to the trade. The sales for the closing week were estimated at 5,000 bales, market closing firmly at the following :—

PRICES ADOPTED NOVEMBER 23D FOR THE FOLLOWING QUALITIES:—

	Upland.	Florida.	Mobile.	N. O. & Texas.
Ordinary	8½	8½	9	9
Middling	9½	9½	9½	10½
Middling fair	10½	10½	10½	11
Fair	10½	10½	11½	11½

JOURNAL OF BANKING, CURRENCY, AND FINANCE.

CITY TAXATION IN UNITED STATES.

In the course of a speech delivered in the Philadelphia City Council by Mr. Welsh on the subject of city taxation, he introduced the following comparative table showing in the different cities named the proportion of tax which is derived from real and personal property, viz:—

Philadelphia, real estate pays..p. ct.	98½	Cincinnati, personal.....p. ct.	33
personal	1½	Baltimore, real estate	62
New York, real estate	69½	personal.....	38
personal.....	30½	Boston, real estate.....	56
Cincinnati, real estate.	67	personal.....	44

The annual cost of taxation to each individual is thus stated, the population in each city being stated at the figures fixed by the last census:—

	Population.	Taxes levied.	Cost to each inhabitant.
Boston	136,881	\$2,866,000	\$13 63
Last year it was.....	.....	.....	15 25
Cincinnati.....	115,436	1,458,000	12 63
New York.....	515,547	5,466,000	10 60
Baltimore.....	169,054	1,422,697	8 41
Philadelphia	408,762	2,472,000	6 05

It will be seen by this table that the rate paid by Philadelphia is lowest, whilst Baltimore is next. But in Philadelphia there are certain other taxes, not, we think, included in the above. They are levied not on property, but on the persons of voters, who, whether holding property or not, are liable for their payment. Such, for instance, is the poll-tax of twenty-five cents a year, which has to be paid as a condition precedent to voting. The addition of these taxes would, perhaps, go far towards equalizing the taxation of Baltimore and Philadelphia. From other portions of Mr. Welsh's statement, which appears to have been made up with a good deal of research, we condense the following statement of the rate of taxation on property in the several cities named in the year 1855:—

	Taxable basis.	Rate of taxation.
New York.....	\$487,000,000	\$1 20 on \$100
Boston.....	242,349,200	0 77 100
Philadelphia.....	150,000,000	1 80 100
Baltimore.....	106,770,000	1 33½ 100
Cincinnati.....	89,485,000	1 63 100

Mr. Welsh argues that in Philadelphia the taxable basis is under-estimated to a greater degree than in the other cities, and to this and to the almost total exemption there of personal property, he attributes the heavy rate of taxation which property in Philadelphia has to pay. The State tax in Philadelphia almost amounts to thirty cents on the dollar, whilst in Baltimore it is but fifteen cents. What is the rate paid by the other cities we do not know.

BANKING IN THE UNITED STATES—ITS EFFECTS.

The Cincinnati *Price Current* gives utterance in a leading editorial to some well-timed remarks on this subject. The *Price Current* says that credit, when kept within proper bounds, is a necessary auxiliary to Commerce in all civilized nations; in fact, indispensably so; but when the use of credit is abused, it becomes a curse to the mercantile community in the State or nation so abusing it. We do not intend now going into details in regard to the manner in which commercial credit is abused, or how it may be abused, but will simply state that it has been greatly abused, as is well known in this country during the last few years, and hence the source of all the commercial disaster which has alternately astonished and alarmed the country within the last twenty months.

Nothing affords greater facility, or holds out so much inducement to abuse credit, as banking. The power to make and circulate bank paper as money, is a more important and dangerous power to be conferred upon any individual or corporation than is generally supposed; and why is it so? We will answer this question by asking another; namely, what is the great power which now controls the affairs of the great European nations? Simply the money power. The Rothschilds are, in fact, the most powerful men in Europe. So, then, a fearful power is placed in the hands of the man or corporation authorized by the State to make and circulate paper money, or anything for money which is not of an intrinsic value commensurate with the value it assumes as a circulating medium. It may be asked, has banking privileges been the cause, directly or indirectly, in producing in this country the disasters which her Commerce has just passed through?

Our reply is as follows:—During the last three years the banking capital of the United States has increased out of all proportion to the growth of the wealth and population of the country. In 1851, there were just eight hundred and fifty nine banks and branches of banks in the entire Union, whilst at the end of the year 1854, the number had increased to twelve hundred and eighty; thus, in those three years, the number of banks went up 40 per cent, while in the same period the inhabitants did not increase over 12 per cent. It is likely that the wealth of the country during these years increased something more than the increase of the population, but nothing like the increase of the banks.

At the close of the year 1851, the bank discounts were about four hundred million dollars, and at the close of 1854 they had increased to six hundred millions. At the former period the specie held by the banks was about forty-eight millions, and at the close of the latter year it was not quite sixty millions. The only safe and legitimate basis for banking is specie money; any other is illegitimate and dangerous. In the above can be identified the lever which upheaved the commercial and financial superstructures of the Union, and brought bankruptcy and ruin upon the country. It may be said that it was overtrading. This is true; but this was only the effect, the other the cause. Merchants could not overtrade without capital, real or fictitious. The banks furnished the fictitious capital, and men went into business extensively, who should not have done so; goods were imported which ought not to have been imported; railway projects were undertaken which ought not to have been even attempted; and speculation in everything was the order of the day. The farmer left his plow and his ax to speculate; the weaver laid by his shuttle to speculate; the clerk left his counter or his desk and figured at the stock board, becoming more familiar and entirely more absorbed in the stock bulletin than in his employer's business. All rushed on wildly and insanely to be rich—but the race was short, and the competitors found themselves wallowing in the mire of disappointment—the chase

over, the phantom fled, and "rascal," "swindler," "thief," "fugitive," "bankrupt," and similar devices stamped upon the brows of the vast majority.

It must not be inferred from the above that we are opposed to banking, because we are not; but, on the contrary, do believe that sound and legitimate banking is as necessary to a commercial nation as is credit. It is the magnitude of the power conferred upon corporations in giving them banking privileges, and the disastrous consequences consequent upon the abuse of the power, which we have attempted to illustrate, and there can be no doubt whatever that the right to issue paper money is conferred with far too little discrimination, and with too much recklessness by our law makers; and hence originates a large amount of the financial and commercial revolutions which retard the prosperity of the country.

THE MYSTERY OF EXCHANGE ON ENGLAND.

A Pittsburgh paper comes to the rescue of such of its readers as are bothered in calculating the rates of exchange, and the terms made use of by money brokers, when buying or selling drafts, bills of exchange on England, or Bank of England notes, when the decimal method is substituted for the £ s. d. in England. It will be an easy matter, it says, to know when exchange is at par or against the country. We will not fatigue our readers with the dry details of the apparent mystery why a £ (pound) sterling is rated at \$4 80 in America and \$4 44 in England, both being identically the value of the same piece of gold, called a Victoria or Sovereign, but we will furnish them with a method to calculate by, when it is said exchange on London is at a premium. If \$4 80 is par, it is called in this country 8 per cent premium.

\$4 81 is represented as.....	8½ per cent.
4 82 ".....	8½ "
4 83 ".....	8½ "
4 84 ".....	9 "

When a party sells a sovereign in this country for \$4 84, (the present price, and which in reality is a premium of one per cent,) then look out for a close, tight money market, as gold will then fly out of the market, if it be coin, as sovereigns, or any other denomination of an equivalent standard; if not, dust or ingots go. It would be the same as selling a silver dollar for one hundred and one cents. The demand for sending away the gold is the only cause for the premium.

In addition to the above, we will append a table that will be found very useful to some of the readers of the *Merchants' Magazine* :—

TABLE SHOWING THE VALUE OF STERLING MONEY IN FEDERAL CURRENCY, FROM ONE PENNY TO ONE POUND.

£ s. d.	\$ Cents.	£ s. d.	\$ Cents.
0 0 1	0 02	0 6 0	1 45 4-20
0 0 2	0 04	0 7 0	1 69 1-4
0 0 3	0 06 1-20	0 8 0	1 93 3-8
0 0 4	0 08 1-20	0 9 0	2 17 3-4
0 0 5	0 10 1-20	0 10 0	2 42
0 0 6	0 12 2-20	0 11 0	2 66 5-20
0 0 7	0 14 2-20	0 12 0	2 90 1-5
0 0 8	0 16 2-20	0 13 0	3 14 9-20
0 0 9	0 18 3-20	0 14 0	3 38 1-2
0 0 10	0 20 3-20	0 15 0	3 62 1-2
0 0 11	0 22 3-20	0 16 0	3 87 2-20
0 1 0	0 24 4-20	0 17 0	4 12
0 2 0	0 48 8-20	0 18 0	4 36 1-4
0 3 0	0 72 1-2	0 19 0	4 60
0 4 0	0 96 3-4	0 20 0	4 84 4-20
0 5 0	1 21		

EXCHANGE IN NEW ORLEANS.

RATES OF SIGHT EXCHANGE ON NEW YORK AND THE EASTERN CITIES, AND NEW ORLEANS,
DURING THE YEAR:—

Week ending—		NEW YORK.				NEW ORLEANS.			
		1853-4.		1854-5.		1853-4.		1854-5.	
		P'm.	Dis.	P'm.	Dis.	P'm.	Dis.	P'm.	Dis.
September	7.....	..	..	1½	..	..	..	..	..
	14.....	½	..	1½	..	½	..	..	..
	21.....	½	..	1½	..	½	..	..	..
	28.....	½	..	1½	..	..	..	..	..
October	5.....	½	..	½	..	..	..	..	..
	12.....	½	..	1½	..	..	..	..	..
	19.....	½	..	1½	..	..	..	..	..
	26.....	½	..	1½	..	½	..	..	..
November	5.....	1	..	1½	..	par	..	..	..
	12.....	1	..	1½	..	par	..	..	..
	19.....	½	..	3	..	par	..	..	..
	26.....	1	..	1½	..	½	..	1	..
December	3.....	1	..	1	..	½	..	1	..
	10.....	½	..	1	..	½	..	..	..
	17.....	½	..	1½	..	½	..	½	..
	24.....	½	..	1	..	½	..	1	..
	31.....	½	..	1	..	par	..	½	..
January	7.....	½	..	1	..	½	..	½	..
	14.....	1	..	1½	..	½	..	..	..
	21.....	1	..	1	..	½	..	½	..
	28.....	1	..	1	..	½	..	1	..
February	4.....	1	..	1	..	½	..	1	..
	11.....	1	..	½	..	1	..	1	..
	18.....	½	..	½	..	½	..	1	..
	25.....	½	..	½	..	1	..	1	..
March	4.....	1	..	½	..	1½	..	1	..
	11.....	1	..	½	..	1	..	1	..
	18.....	1	..	½	..	1	..	1	..
	25.....	1½	..	1	..	1	..	1	..
April	1.....	1½	..	1	..	1	..	1	..
	8.....	1½	..	½	..	½	..	1	..
	15.....	1½	..	½	..	½	..	1	..
	22.....	1½	..	½	..	par	..	½	..
	29.....	1½	..	½	..	par	..	½	..
May	6.....	1½	..	1	..	par	..	par	..
	13.....	1½	..	1	..	par	..	par	..
	20.....	1½	..	½	..	par	..	par	..
	27.....	1½	..	½	..	par	..	par	..
June	3.....	1	..	½	..	½	..	..	..
	10.....	½	..	½	..	par	..	..	..
	17.....	1½	..	½	..	½	..	..	..
	24.....	1½	..	½	..	½	..	par	..
July	1.....	1½	..	½	..	½	..	par	..
	8.....	1½	..	½	..	½	..	..	..
	15.....	1½	..	½	..	½	..	par	..
	22.....	1½	..	½	..	..	..	..	..
	29.....	1½	..	½	..	..	..	..	..
August	5.....	1½	..	½	..	..	..	..	..
	12.....	1	..	½	..	..	..	..	..
	19.....	1½	..	½	..	..	..	..	..
	26.....	1½	..	½	..	½	..	..	..
	31.....	1½	..	½	..	½	..	..	..

THE BANKS OF SAN FRANCISCO.

The banks of San Francisco are naturally important, as being the depositories of the wealth that thousands are hourly accumulating on the rich "placer" fields. These

buildings are of brick, and have fire-proof cellars; and although at the time they were erected the outlay was enormous, both for material and labor, it was a mere trifle in comparison with the profits of their owners. The banks line one side of Montgomery-street, the principal thoroughfare of the city; and as the space on all sides has been entirely cleared for some distance by the fire, this row of buildings stands alone just now and solitary, like the speculative "terrace," with "extensive marine view," that fronts an unpopular watering-place in England. At the corner of a street is Burgoyne's Bank; you enter and find it very crowded and full of tobacco-smoke; instead of the chinking of money, you hear a succession of thumps on the counter, as the large leathen bags of gold-dust come down on it. Some of the clerks are weighing gold-dust, some are extracting the black sand with a magnet, and others are packing it in bags and boxes. The depositors are, generally speaking, miners, who have come down from the diggings, fellows with long beards and jack-boots, and of an unwashed appearance for the most part. However, many of these are not by any means what they seem; they have just arrived, perhaps, from a toilsome, dusty journey, and deposit their gold as a first precaution; and before the evening they will have been metamorphosed into very respectable-looking members of society, and will remain so until they return again to the diggings. Large blocks of quartz lie about the room, in all of which are rich veins of gold. These have been sent down from the mountains to be assayed; and the rich yield that these solitary specimens afforded led some time afterwards to a great deal of very ruinous speculation, for it had been represented that these specimens were average samples of great veins, and it was only when money had been expended in large sums that it was discovered that these rich morsels were merely accidental deposits of gold, and by no means indicated the value of the veins.

REAL AND PERSONAL PROPERTY IN PHILADELPHIA.

The following is given as the official assessment of the value of the property in the city of Philadelphia, as assessed for city and State purposes:—

Real estate.....	\$142,136,202
Number of personals.....	94,566
Value of furniture.....	\$2,166,450
Money at interest, mortgages, stocks, &c.....	17,609,898
Number of horses and cows.....	501,929
Emoluments of office.....	\$133,334
Number of gold levers.....	3,880
Plain gold and silver levers.....	1,121
Plain silver watches.....	121

The real estate as assessed in the various wards, the money at interest, &c., will be seen by the following table:—

Wards.	Real estate.	Money at interest, &c.	Wards.	Real estate.	Money at interest, &c.
1.....	\$3,502,180	\$2,000	14.....	\$4,851,446	\$12,400
2.....	4,512,957	17,650	15.....	5,771,831	116,810
3.....	2,522,058	.....	16.....	2,607,195	7,100
4.....	2,570,640	1,220	17.....	1,840,321	.....
5.....	13,264,600	5,615,198	18.....	2,300,297	11,612
6.....	20,753,782	796,422	19.....	5,052,730	5,500
7.....	6,250,300	1,008,355	20.....	4,951,048	43,780
8.....	12,024,872	3,543,531	21.....	2,647,200	259,697
9.....	15,235,300	2,300,924	22.....	3,000,000	960,000
10.....	7,754,533	1,394,899	23.....	4,248,800	549,240
11.....	4,306,544	142,090	24.....	4,305,248	259,987
12.....	3,773,265	411,775			
13.....	4,059,035	229,608	Total.....	\$142,136,202	\$17,609,898

ACT RELATING TO BANK CHARTERS IN NEW JERSEY.

The Legislature of New Jersey at its last session passed the subjoined act, introducing some new provisions, with a view to the greater security of the circulating notes of the incorporated banks of that State:—

And be it enacted, That if the said corporation shall at any time hereafter become insolvent, the whole assets of the said corporation, at the time of its becoming insolvent, shall be first liable for the redemption of its bills or notes then in circulation, and shall be first applied to the payment thereof; and in case of a distribution of the assets of said corporation among the creditors thereof, under an order of decree of the Court of Chancery, or other court, the holders of such bills or notes shall be equal in priority, and shall have a preference over all other creditors.

And be it enacted, That all the directors of said corporation shall be residents of this State, and shall be jointly and severally liable for the payment of all the bills or notes of said corporation, which may be in circulation at the time of its becoming insolvent, and may be jointly and severally prosecuted, at law or in equity, by any receiver or receivers that shall or may be appointed, for the payment of any such bills or notes, as if the same were their joint and several bills or notes, executed by them in their individual capacity; and it shall not be lawful for any director of said corporation to resign his office to avoid such liability; and if any director shall so attempt to resign his office, he shall be and continue liable the same as if no such resignation had been attempted; and such liability of directors shall continue after they cease to be directors, either by resignation or otherwise, if the said corporation was insolvent when they ceased to be directors; and it shall not be lawful for any director to assign or transfer his stock or other property to avoid such liability; and in case of the payment of any such bills or notes by any of said directors, the other who may be liable shall account in the same way as other joint debtors are accountable to each other; *provided*, that no property that shall or may be levied on, or taken in execution under or by virtue of any judgment or decree in favor of any receiver or receivers, under the provisions of this act, shall be sold until after the expiration of four months from the date of said judgment or decree.

And be it enacted, That if the assets of said corporation and the property of said directors shall prove insufficient to redeem the whole of the said bills and notes, then the amount that shall or may be realized from said assets and property, shall be distributed rateably among the holders of the said bills and notes.

And be it enacted, That the stockholders of said corporation, at the time of its becoming insolvent, other than said directors, shall be jointly and severally liable to any receiver or receivers that shall or may be appointed as aforesaid, to an amount sufficient to redeem the said bills and notes, after the assets of said corporation and the property of said directors shall have been distributed as aforesaid; *provided*, that no stockholder other than said directors shall be made liable to an amount exceeding the par value of the stock held by him at the time said corporation becomes insolvent, and if that amount shall not be required for the full redemption of said bills and notes, then the said stockholders shall be liable in the ratio of the said stock so held by them, and it shall not be lawful for any such stockholder to assign or otherwise transfer his stock or other property to avoid such liability.

SAN FRANCISCO SHIPMENTS OF GOLD FOR NINE MONTHS.

The San Francisco *Price Current* furnishes a statement of the value of gold, the produce of California, manifested and shipped from that port during the quarter ending September 30th, 1855, from which we have condensed the following statement:—

SHIPMENTS FOR THE QUARTER ENDING SEPTEMBER 30, 1855.

To New York.	To London.	To Panama.	To Hong Kong.
\$11,426,282 84	\$1,413,565 45	\$44,793 39	\$53,600

Showing a total for the quarter of \$12,938,191 68. The shipments during the previous six months amounted to \$18,999,290 32; being a total for the first nine months of 1855 of \$31,937,482. Shipped during the same period last year, \$37,216,831 18 exhibiting a difference in favor of 1854 of \$5,279,349 18.

PROJECT OF AN IRON CURRENCY IN CHINA.

In his contributions to the History of the Insurrection in China, published in the *North China Herald*, May 6, 1854, at the conclusion of an account of the new experiment of a paper currency recently adopted by the Chinese government, Dr. Macgowan thus refers to the project of an iron currency in China :—

"Among the plans submitted to the Board of Revenue for meeting the present emergency, that of the governor of Shansi, which contemplates the issue of an iron coin, is the most singular. It does not appear that any report was made in relation to it, because, doubtless, the members of the Board were better read in history than the memorialist, and knew that previous attempts of the kind had signally failed. Chinese writers on numismatics bring evidence from history showing that, from eleven to fourteen centuries before our era, coins both of iron and lead were sometimes in use. The experiment of iron coinage by the founder of the Liang dynasty, in A. D. 523, is best known.

"In 650, coins of iron and lead were common, ten of the former being equivalent to one of the latter. About that period a prince of Fuhkien issued an iron coin, bearing his name—*Tientek*. In general, it may be stated, that from A. D. 523 to 960, many attempts were made to employ the Spartan metal for money, during which period fruitless efforts were made to preserve a fixed relation between it and copper; but the law of supply and demand was stronger than imperial edicts, and rendered nugatory these unnatural restraints of government. It is singular that no Chinese government has hitherto undertaken coinage of silver, although attempts have been made by local officers and private persons to imitate the Spanish dollar; for some reasons, not obvious, these experiments have failed. *En passant*, we may remark, that a full history of circulating media of China would form a curious monograph, which, besides throwing much light on the mode of civilization, would be found replete with facts of no small interest to the political economist; tortoise shells and the shells of molluscs, silk, cloth, buskin, paper, baked earth, tin, tutenague, lead, iron, copper, silver, and gold—sometimes separately, sometimes one or more in combination—have all been used as money; and also, to eke out the list, brick-tea, at present circulating among the northern nomads."

 COMMERCIAL REGULATIONS.

CUSTOMS REGULATIONS OF THE UNITED STATES.

The Secretary of the Treasury, under date of the Department, November 1, 1855, prescribes for the government of collectors and other officers of the customs, the subjoined regulations, which are published in the *Merchants' Magazine* for the information of ship-owners, and commercial interests generally. It will be seen that they relate to—1st. The abatement of duties for damages during the voyage of importation. 2d. To foreign-built vessels wholly owned by citizens of the United States, as follows :—

ABATEMENT OF DUTIES FOR DAMAGES DURING THE VOYAGE OF IMPORTATION.

1. In pursuance of the 52d section of the General Collection Act of the 2d March, 1799, no abatement of duties on merchandise on account of damage occurring during the voyage of importation can be allowed, unless proof to ascertain such damage shall be lodged in the custom-house within ten working days after the landing of such merchandise.

2. The term "during the voyage," means after the vessel has started from the foreign port of exportation, and during the voyage to, and before her arrival at her port of destination in the United States.

3. The proof of damage required to be lodged with the collector within ten days after landing, will consist of the claim of the owner or importer for allowance, in writing, subscribed and sworn to by him, specifying by marks and numbers the particular

articles or packages which are alleged to be damaged, verified by some competent and disinterested person, under oath, who has examined the same; and the official examination and appraisement must be confined to the articles and packages so specified, and proved to have received damage during the voyage, except in the case of the discovery of damage in the appraisers' department, as hereinafter prescribed.

The forms of application, oath of applicant, and sworn statement of witness shall be as follows, viz:—

[These are omitted.]

4. Upon the production of the proof before indicated, the collector shall issue an appraisement order, and cause the same to be conveyed by a clerk or messenger, without delay, to the appraisers of the port, who will forthwith personally attend to the examination, or designate one or more examiners, or an assistant appraiser, for such duty.

5. When the articles are damaged not exceeding 30 per cent, the examination must be made by an assistant appraiser and at least two examiners; and by a principal or general appraiser and two examiners, if the damage exceed 30 per cent.

[At ports where there are no appraisers, the collector and naval officer, if there be one, and the collector alone, if there be no naval officer, will examine and appraise damage.]

6. The collector is authorized in any case to require the general appraiser, if there be one in the district, to superintend and assist in the ascertaining of any damage on the voyage of importation, and who will certify the return in addition to that of the other examining officers.

7. All dry goods, fancy articles, hardware, cutlery, tobacco, cigars, and manufactured articles generally, contained in packages, and all other articles, whenever practicable in the discretion of appraisers, must, for the purpose of ascertaining the damage sustained on the voyage of importation, be sent to the appraisers' stores at the expense of the importer, and reasonable charges made by the collector for labor and storage; and in all cases where examination for damage is made at any other place, it shall be the duty of the importer or claimant for the abatement of duties by reason of damage on the voyage, to have the packages or goods properly arranged, assorted, opened, and exhibited, so that the appraisers may, with as little delay as possible, and in the clearest manner, inspect and ascertain the actual damage incurred.

8. In no case shall any damage be allowed beyond 50 per cent, nor exceeding the sum of \$2,000, except perishable articles, unless the merchandise shall have been personally examined by at least one principal appraiser, or an appraiser at large, if there be one at the port, nor until such proposed allowance shall be reported to the Secretary of the Treasury, and his sanction obtained thereto.

9. No damage is to be allowed in any case except on merchandise on which damage is duly claimed, proved, and found by the examining officers, on actual inspection, to be a substantial and actual damage, and incurred during the voyage of importation; and if the articles be contained in a package, the package must be opened, and a strict examination made, in order that the extent of actual damage may be ascertained, and fictitious or pretended damage detected.

10. No average allowance for damage is to be made; and damage on the voyage of importation is to be ascertained by reference to the value of the merchandise in the principal markets of the country whence imported, and not according to the home valuation. Auction or forced sales are not regarded as a fair criterion of damage.

11. When the damage in any case can be removed, and the article restored to a sound state, the expense of that process will be the proper measure of damage, and the allowance should not exceed that amount.

12. The discharging officer shall keep a strict account and record of such articles as appear, on unloading the vessel, to be damaged, and shall make return of the same to the collector.

13. Whenever any merchandise undergoing examination in the appraisers' department is discovered to be in a damaged condition, it shall be the duty of the officers so discovering the same to notify the appraisers thereof, who will at once personally inspect the merchandise, and will report to the collector in regard to the damage having occurred during the voyage; and if the collector shall concur with them in the opinion that the damage did so occur, he will issue an order for the ascertainment and es-

timate thereof, as in other cases, without requiring the proof from the importer, heretofore prescribed. It must be understood, however, that no such appraisement of damage, or allowance therefor, can be made unless the damage was so discovered by the appraisers within ten working days after the landing of the merchandise.

14. The estimate of damage must, in all cases, be certified by one of the principal appraisers.

15. The officers appointed to make examination of damage shall, when such examination is completed, return the appraisement order, with the per centage allowed indicated thereon, and verified by signature, to the general appraiser, if there be one at the port, whose duty it shall be carefully to examine the same, and if he finds any objection thereto, he will report the same to the local appraisers, returning to them the appraisement order, and they shall make such further examination as they may think proper. The appraisement order, after the damage shall have been duly estimated and certified, will be returned without delay by a clerk or messenger to the collector of the port.

16. Damage on the voyage of importation must be ascertained at the port where the vessel originally entered, and cannot be certified from any other port; and no reappraisement is authorized by law in case of allowance for damage.

17. The law authorizes an allowance to be made in the assessment of duties for actual damage occurring during the voyage of importation, properly proved and estimated; and any instructions heretofore issued confining the allowance to particular articles, or particular modes of damage, are hereby annulled; the damage in every case being a matter of fact, to be proved and estimated in the manner prescribed.

18. Collectors of the customs and appraisers will each keep a record of damages, which shall exhibit the following particulars, and monthly returns, according to the following form, shall be made by collectors to the Secretary of the Treasury.

FOREIGN BUILT VESSELS WHOLLY OWNED BY CITIZENS OF THE UNITED STATES.

Inquiry is frequently made of this Department as to what documents can be issued, under the laws of the United States, to foreign built vessels purchased and wholly owned by citizens of the United States, whether purchased of belligerents or neutrals during a war to which the United States are not a party, or in peace, of foreign owners, the purchase in either case being in entire good faith.

Vessels so purchased and owned are entitled to the protection of the authorities and flag of the United States, as the property of American citizens, although no registry, enrolment, license, or other marine document, prescribed by the laws of the United States, can be lawfully issued to such vessels.

To enable, however, the owners of a vessel so circumstanced to protect their rights if molested or questioned, the collector of the customs, though forbidden by law to grant any marine document or certificate of ownership, may lawfully make record of the bill of sale in his office, authenticate its validity in form and substance, and deliver to the owner a certificate to that effect; certifying, also, that the owner is a citizen of the United States.

These facts, thus authenticated, if the transfer was in good faith, entitle the vessel to protection as the lawful property of a citizen of the United States; and the authentication of the bill of sale and of citizenship will be *prima facie* proof of such good faith.

In all cases, therefore, where the evidences of the purchase of a foreign vessel by a citizen of the United States, with proof of citizenship and of the *bona fide* character of the purchase, shall be furnished to a collector of the customs, he will, if the proof be satisfactory, and purchase deemed fair, record the bill of sale in his office, and deliver to the party the original, with a certificate indorsed thereon.

Before granting such certificate, the collector of the customs will require the tonnage of the vessel to be duly ascertained in pursuance of law, and insert the same in the description of the vessel in his certificate.

It will be distinctly understood, however, that vessels not registered, enrolled, or licensed, under the laws of the United States, wholly owned by citizens thereof, cannot legally import goods, wares, or merchandise from foreign ports, and are subjected, in the coasting trade, to disabilities and exactions, from which documented vessels of the United States are exempted.

On arrival from a foreign port, such undocumented vessel, if laden with goods, wares, or merchandise, will, with their cargoes, be subjected to forfeiture. If in bal-

last only, or with passengers without cargo, they will be subject to a tonnage duty of one dollar per ton.

In the coastwise trade, such undocumented vessels, if laden with goods, wares, and merchandise of the growth or manufacture of the United States only, (distilled spirits only excepted.) taken in within one district of the United States, to be discharged in another district within the same, or in ballast, will be subjected at every port of the United States at which they may arrive, to payment of the fees prescribed by law in the case of vessels not belonging to citizens of the United States, and to a tonnage duty of one dollar per ton. But if they have on board any articles of foreign growth or manufacture, or distilled spirits, other than sea stores, such vessels, with their tackle, apparel, furniture, and the lading found on board, will be forfeited. And the master or commander of any such vessel bound from one district in the United States to another district within the same, must in all cases comply with the provisions of the 22d and 24th sections of the Coasting Act of the 18th February, 1793, in regard to reports, manifests, permits, entries, and other requirements therein contained; and on neglect or refusal to comply with any of them, he will incur the penalties therein prescribed.

The provisions of that section apply to undocumented vessels passing from one *collection* district to another *collection* district within the United States; such vessels not being embraced within the provisions of the act of 2d March, 1819, and the 11th section of the act of 7th May, 1822, dividing the coast of the United States into certain great districts, for the better regulation of the coasting trade.

A separate record will be kept of these vessels, and in the tonnage returns to the Department they will be reported in a separate column, under the head of "Foreign built vessels owned by citizens of the United States."

DATE OF EXPORTATION FROM FOREIGN PORTS.

Collectors of the customs will enforce the following regulations at their several ports on the entry of vessels from foreign ports, to wit:—

The master or commander of each and every vessel, arriving from a foreign port, should be requested to state, on entry of the same at the custom-house, at what date the vessel sailed from the foreign port of departure.

JAMES GUTHRIE, Secretary of the Treasury.

BONDED GOODS PASSING THROUGH CANADA.

The Secretary of the Treasury has written a letter to the Collector of the port of Buffalo, of which the following is an extract, wherein he decides, as will be seen, that the "Collingwood Route," so called, is admitted to the same privileges, and declared subject to the same regulations in regard to bonded goods, the growth and product of the United States, passing through Canada, as that of the Great Western Railway; and that such goods must be accompanied by manifests, embracing the articles of American as well as foreign origin. The particulars are in the following extract from a letter of the Secretary of the Treasury to the Collector at Buffalo, dated October 22d, 1855:—

SIR:—On due compliance with the conditions prescribed by the regulations in Treasury Circular No. 54, of date 2d July, 1855, routes from the Atlantic ports by way of Ogdensburg, Oswego, and Buffalo, and the Collingwood Railway between Toronto and Collingwood, in Canada, to warehousing ports in the United States, on Lakes Huron and Michigan, are designated as routes over which bonded merchandise can be transported from one port in the United States to another, through that part of Canada traversed by that road, under the same regulations as those prescribed in that circular for bonded merchandise passing through portions of Canada over the Great Western Railway.

In regard to foreign merchandise duly entered and free of duty, or duty paid, and merchandise of domestic origin, whenever such merchandise is to be transported over these routes into Canada, and thence into the United States, to prevent detention of the goods, and frauds on the public revenue, the merchant, owner, or shipper, before the goods are laden or shipped for transportation, must present manifests to triplicate to the collector at the port of departure, which manifest shall specify the kinds and quantities of the articles, and the marks and numbers of the packages shipped by

him, the port of destination, to whom consigned, and the route over which the transportation is to be made; specifying the articles that are of American production or manufacture, and such as are of foreign production or manufacture, and free of duty, or duty paid; to the truth of which he will make declaration, and sign his name thereto.

The collector will indorse on the manifest his certificate of the facts.

One of the manifests will be retained by the collector, one will be forwarded by the shipper to the consignee at the port of destination, and the other accompany the goods.

On the arrival of the merchandise at the port of destination in the United States, and presentation of the manifests and certificate to the collector, if he finds the packages conform to the manifest and certificate, he will issue a permit for the delivery of the goods, if of domestic origin, or foreign origin, if free of duty, or duty paid.

Goods, in respect to which the prescribed manifests and certificate are not produced, or discrepancies exciting a just suspicion of fraud, will be treated as of foreign production, and subjected to the duties imposed by law.

* * * * *

JAMES GUTHRIE, Secretary of the Treasury.

ACT OF LOUISIANA RELATIVE TO NOTARIES IN NEW ORLEANS.

The following act, regulating notaries in New Orleans, was approved March 14, 1855, and is now in force:—

AN ACT RELATIVE TO NOTARIES IN NEW ORLEANS.

SECTION 1. That it shall be the duty of the notaries in New Orleans to cause every deed of sale, donation, or any other sort of conveyance of real estate or slaves, passed before them respectively, even when the parties shall agree to dispense therewith, to be registered at the office of the Register of Conveyances for New Orleans, within forty-eight hours after the passage of said acts, and this under the penalty of five hundred dollars fine, to be recovered before any court of competent jurisdiction, for the use and profit of the Charity Hospital, and also under the penalty of being liable for all damages which the parties may suffer through the neglect of said notary to register the said acts.

SEC. 2. That the Governor shall not appoint or commission any notary public in and for the parish and city of New Orleans who shall fail to furnish him with a certificate from the judges of the Supreme Court, certifying to the qualifications requisite to perform the duties of said office; that all notaries public in the parish of New Orleans shall give bond, with security, in the sum of ten thousand dollars for the faithful discharge of the duties of his office.

SEC. 3. That it shall be the duty of said register of conveyance to affix to the act to be enregistered, a certificate that he has enregistered the same.

SEC. 4. That hereafter neither the sheriff nor the notaries of the parish of Orleans shall pass or execute any act for the sale, transfer, or exchange of any real estate situated within said parish, unless the State, parish, and municipal taxes due on the same, be first paid, to be shown by the tax collector's receipt, or certificate to that purpose.

SEC. 5. That the sheriff or notary public violating the provisions of the preceding section, shall, upon conviction thereof, be fined in a sum of not less than fifty, nor more than two hundred dollars, for each violation, to be recovered by the district attorney for the use of the Free Schools for the parish of Orleans, before any competent tribunal.

SEC. 6. That it shall be lawful for each and every notary public in New Orleans to appoint one or more deputies to assist him in the making of protests, and delivery of notices of protests of bills of exchange and promissory notes: provided that each notary shall be personally responsible for the acts of each deputy employed by him. Each deputy shall take an oath faithfully to perform his duties as such. The certificate of notice of protest shall state by whom made or served.

SEC. 7. That all laws contrary to the provisions of this act, and all laws on the same subject-matter, except what is contained in the Civil Code and Code of Practice, be repealed.

OF EXECUTIONS AND SALE OF PROPERTY IN LOUISIANA.

We give below a correct copy of an act regulating the issuance and returns of executions, and the sale of property thereon, passed at the last session of the Louisiana Legislature, and approved March 15, 1855 :—

AN ACT REGULATING THE ISSUANCE AND RETURNS OF EXECUTIONS, AND THE SALE OF PROPERTY THEREON.

SECTION 1. That from and after the passage of this act it shall be the duty of sheriffs, coroners when acting as sheriffs, and constables, to return all writs of *fieri facias*, to them or any of them directed, on the return days named in said writs, and if any sheriff, coroner, or constable, shall fail to make due return of such writ on the return day thereof, such officer and his official sureties shall be held liable to pay to any party the damages sustained in consequence of such failure.

SEC. 2. That in all cases where a seizure of property shall have been made under a writ of *fieri facias*, and the officer making such seizure shall not be able to sell such property before the return day of the writ, such officer shall nevertheless make due return of such writ on the return day thereof, as hereinbefore provided.

SEC. 3. That the officer aforesaid, at the time of making return as required in the preceding section of this act, shall make and retain a copy of the writ, duly certified by himself, and it shall be his duty to proceed under such certified copy in the same manner as though the original writ was in his hands, and to make a return thereon.

SEC. 4. That hereafter the return of any writ of *fieri facias*, on the return day thereof, shall in no case operate as a release of the seizure of property made under such writ, or as a discharge of any lien acquired by a service of such writ, unless the property so seized shall have been duly sold, or unless such seizure shall have been released by order of the party in whose favor it was made, or by order of a court of competent jurisdiction.

SEC. 5. That hereafter it shall be lawful for any judgment creditor entitled to execution, to issue several writs of *fieri facias* to different parishes at the same time; provided that when the property of any defendant in execution shall be under seizure in different parishes at the same time, such defendant shall have the right to have a reduction of the seizures which shall have been so made upon showing that the amount of property so seized is more than sufficient to satisfy his creditor's judgment; and provided also that such seizing creditors shall be liable to pay the defendant in execution such damages as the latter may have sustained in consequence of any excessive seizures made at his instance.

OF KEEPING GUNPOWDER IN NEW YORK.

AN ABSTRACT OF THE ACT OF THE LEGISLATURE OF NEW YORK RESPECTING THE KEEPING OF GUNPOWDER IN THE CITY OF NEW YORK.

An act, passed May 13, 1846, in relation to the keeping of gunpowder, saltpeter and certain other substances in the city of New York, provides :—

SECTION 1. That gunpowder shall not be kept by any person in New York, south of 42d-street, without licenses.

SEC. 2. The Mayor may grant licenses to sell powder at retail, and persons licensed may keep on their premises a quantity of gunpowder not exceeding in all twelve pounds, to be put up in light tin or copper canisters, capable of containing only one pound each. Such persons, in order to be protected from the penalties of this act, must place, on a conspicuous part of the front of their houses, in large and legible characters, the words "licensed to sell gunpowder."

SEC. 3. Persons actually dealing in gunpowder may have five quarter-casks, and no more, at one time on the walk in front of their stores, for the purpose of packing it, or sending it out of the district specified in section 1.

SEC. 13. Sulphur, in greater quantities than one-half ton, and other combustible materials, are prohibited to be kept south of 14th-street.

SEC. 16. No person shall keep more than five hundred pounds of saltpeter in one building south of 42d-street.

SEC. 17. Saltpeter may, however, be kept in any quantity in any fire-proof building in New York, provided it be the only merchandise kept or stored in the building.

SEC. 18. Any violation of the provisions of this act, except where otherwise expressly provided, shall subject the offender to a fine of \$500 for each offense, and such offenders may, on conviction, be imprisoned for one year.

SEC. 19. If any persons are injured at any fire in New York, in the district specified in section 1, by means of any explosion resulting from the violation of the provisions of this act, relating to saltpeter or gunpowder, the persons guilty of violating the law shall be punished by an imprisonment of two years in the State prison. If such violation occasions the death of any person, the offender shall, on conviction, be deemed guilty of manslaughter in the third degree, and punished as now provided by law for that crime.

DUTIES UPON GRAIN IMPORTED INTO FRANCE.

The following decree has been officially communicated to the Department of State at Washington, and a translation of the same is published in the *Merchants' Magazine* for the information of commercial men in our exporting ports:—

A ROYAL DECREE OF THE 12TH OF SEPTEMBER RELATIVE TO THE IMPORTATION OF GRAIN:—

ARTICLE 1. The duties upon the importation of the following articles are diminished to the amount indicated for each article.

	Cents.
Potatoes the 10 hec.	5
Millet the 100 kil.	1
Rice	3
Padi	2
Wheat and skinned spelt the last.	10
Rye, corn	10
Barley, malt	10
Indian corn	10
Oats and unskinned spelt	10
Beans, fitches, peas and lentils, oatmeal and skinned barley	10
Bread biscuit and flour from all kinds of grain and cereals, f. 4 the 100 kil.	

ART. 2. The foregoing provisions take effect from the 1st of October, 1855, and remain in force until the 31st December, 1855, or until a law legislates differently on this subject.

DEPARTMENT OF STATE, WASHINGTON, October 19.

Information has been received at this Department from the United States consul at Havre, that the decree of the 9th October, 1854, relieving all vessels wholly laden with breadstuffs, grain, &c., from tonnage dues, and those partially loaded, from a corresponding portion of the dues, till the 31st July, 1855, and which, by another decree of the 2d June, was extended to the 31st December, 1855, has, by a decree of the 8th September last, been further prolonged to the 31st December, 1856.

OF LIENS AND CHATTELS MORTGAGED IN VERMONT.

The following act in relation to liens and chattel mortgages, was passed at the last session of the General Assembly of the State of Vermont, and approved November 10, 1854:—

AN ACT IN RELATION TO LIENS AND CHATTELS MORTGAGED.

SECTION 1. In all cases of sales of personal property where payment of the purchase money is, by the contract of sale, made a condition precedent to the transfer of the title, and where the property has, in pursuance of the contract, passed into the possession of the vendee, and where the purchase money shall have been in part paid, any creditor of the vendee may attach or levy his execution upon said property, and, upon payment or tender to the vendor, his agent, or attorney, within ten days after such attachment or levy, of the residue of such purchase money remaining unpaid, may hold the said property discharged from the claim of such vendor thereon.

SEC. 2. The officer making such attachment or levy shall hold and dispose of the said property in the manner now required by law in respect to personal property attached or levied upon, and if the same shall be sold under any of the statutes of this State, the officer making such sale shall first pay and satisfy to the said creditor the amount by him paid or tendered to the said vendor, as provided in section one of this

act, and the residue only shall be holden to respond to the debt due to such creditor for the satisfaction of which the said property was attached or levied upon.

SEC. 3. If the said vendor shall refuse to receive the amount tendered to him, as provided in section one of this act, and shall commence and prosecute any suit on account of such attachment or levy, the defendant may, on the trial of such suit, and under the general issue, give such tender in evidence in bar of such action, and on proof thereof and payment of the money tendered into court, he shall recover his costs, unless it shall be made to appear that the amount so tendered was less than the sum actually due to such vendor, as the residue of such purchase money.

SEC. 4. This act shall not apply to, or in any way affect any conditional sale made prior to the first day of January, in the year of our Lord eighteen hundred and fifty-five.

RATES OF WHARFAGE AT THE PORT OF NEW YORK.

The following table, derived from the last annual Report of the Controller, shows the rates of wharfage as established by the Legislature of New York, April 9th, 1813:—

For every vessel under 50 tons, at the rate of.....per day.	\$0 50
For every ship or vessel over 50 and under 100 tons, at the rate of.....	0 62½
For every ship or vessel over 100 and under 150 tons, at the rate of.....	0 75
For every ship or vessel over 150 and under 200 tons, at the rate of.....	0 87½
For every ship or vessel over 200 and under 250 tons, at the rate of.....	1 00
For every ship or vessel over 250 and under 300 tons, at the rate of.....	1 12½
For every ship or vessel over 300 and under 350 tons, at the rate of.....	1 25
For every ship or vessel over 350 and under 400 tons, at the rate of.....	1 37½
For every ship or vessel over 400 and under 450 tons, at the rate of.....	1 50
For every ship or vessel over 450 and under 500 tons, at the rate of.....	1 62½
For every ship or vessel over 500 and under 550 tons, at the rate of.....	1 75
For every ship or vessel over 550 and under 600 tons, at the rate of.....	1 87½

For every ship or vessel of 600 tons and upward, 12½ cents in addition for every 50 tons, in addition to the rate last mentioned, (\$1 87½,) for every day such ship or vessel shall use or be made fast to any of the wharves in the city of New York.

"Every ship or other vessel which shall make fast to any other ship or vessel that shall be fastened to any wharf, and being so fastened shall load, unload, or careen, shall pay the one-half of the rate of wharfage such ship or vessel would have been liable to pay, if fastened to such wharf, and there loaded, unloaded, or careened."

THE STANDARD WEIGHT OF LIVERPOOL SALT AT NEW ORLEANS.

At a recent meeting of the New Orleans Chamber of Commerce, the following resolution, fixing the standard weight of Liverpool salt in sacks, was unanimously adopted:—

"Resolved, That the fixed weight in this market for Liverpool salt, as declared and adopted at the last meeting of the Chamber, has reference to the weight of salt when landed from the ship, and that in sacks of salt from store, or the levee, after having landed from the ship, a fair depreciation from the original weight on landing should be taken into consideration by buyer and seller."

RECEIPT AND DELIVERY OF SAMPLE PACKAGES.

A daily register is required to be kept by the collectors of the customs at the several ports, in which is to be entered the receipt and delivery of all articles of no value imported merely as samples and not for sale. This register is to be kept at the appraiser's store, where the samples are sent and examined. This register is also to be examined daily by the appraisers, and all packages reported by them as "samples of no mercantile value," are to be delivered to the importer by the inspector or other officer in charge, on a general permit, to be signed by the collector and naval officer, and issued for each vessel in the same manner as a baggage permit.

JOURNAL OF INSURANCE.

MARINE INSURANCE.

PERILS OF THE SEA—MASTER'S NEGLIGENCE—INSURER'S LIABILITY.

In the case of *Nelson vs. the Suffolk Insurance Company*, in 8 Cushing's Massachusetts Reports, 477, the principles decided may be briefly stated as follows:—

Underwriters insuring a vessel against perils of the sea are bound to pay the assured the amount paid by him to the owners of another vessel for damages suffered in a collision with the vessel insured, although it was occasioned by the negligence of the master and crew of the latter.

The facts in the case are as follows:—Mr Nelson effected an insurance on the *Isaac Allerton* in the Suffolk Insurance Company for \$10,000 against perils of the sea and other customary perils for one year. Before the policy of insurance had expired, the ship, through the negligence of the master and crew, came in collision with a British steamer, by which collision both the ship and the steamer were damaged. A suit was subsequently commenced by the owners of the steamer against the *Isaac Allerton* to recover damages for the collision, and a judgment was rendered against her for the sum of nearly \$2,500, which Mr. Nelson paid.

This amount he then demanded of the insurance company upon the ground that it was a loss occasioned by the perils of the sea, for which the company was liable. The company paid him for the damages to his own ship, but refused to reimburse him for the damages he had been obliged to pay for the injury to the steamer, and this suit was instituted by Mr. Nelson to recover the latter sum. There was no dispute about the facts. The only question in the case was whether the company, upon an insurance against all loss by perils of the sea, were under obligation to pay the owner of the insured vessel the amount which he had been obliged to pay the owner of the steamer as damages for a collision, which occurred through the negligence of the master and crew of the vessel insured. The opinion of the Court upon this question was rendered by—

FLETCHER, JUSTICE. Every stipulation in a policy of insurance is to be construed favorably to the party entitled to its benefit, as it must be presumed that he understood it in its most favorable sense, and that the other party intended he should so understand it. As the contract of insurance is a contract of indemnity to the assured, it is to be liberally construed in his favor. There can be no doubt that the assured intends to obtain the fullest and most ample indemnity, and that the insurer means that he shall understand that his policy affords him that indemnity. The policy, therefore, should be so construed as to fulfill these intentions. It is only by such construction that the contract of insurance can accomplish its useful and important purpose, and the Commerce of the world be carried on. When the plaintiffs in this case obtained insurance against losses by the perils of the sea, these terms were, no doubt, understood by them in their largest sense, as covering all losses justly attributable to those perils; and, no doubt, the defendants intended that they should thus understand and interpret their policy. To carry into effect these intentions, the policy must be construed favorably for the insured to give them that security which they believed, and had a right to believe, they had obtained. There should be no subtle reasoning, no shadowy distinctions, no straining of rules to narrow and restrict the operation of the contract, so as to defeat the intention of the parties. The parties, no doubt, took a practical view of the matter, and had reference to all possible losses known and unknown, which might be justly attributable to the perils of the sea in the broadest import of the words. They acted on no nice distinctions or subtle reasoning. They could not, of course, foresee and specify the losses, but could only use general terms. "The policy sweeps within its inclosure every peril incident to the voyage, however strange or unexpected, unless there be a special exception. The perils enumerated in the common policy are sufficiently comprehensive to embrace every species of risk to which ships and goods are exposed from the perils of the sea and all other causes incident to maritime adventure." (Kent Com., 6th ed., 291.)

The parties, no doubt, very well knew that there were many losses by perils of the sea, other than direct damage to the ship insured. To hold the defendants liable only

for that, would leave the plaintiffs exposed to ruin in various ways, without the protection they intended to obtain, and supposed they had obtained, under their policy. To give effect to the meaning and intention of the parties, therefore, the defendants must be held responsible for all losses justly attributable to the perils of the sea, as well as for the direct damage to the ship itself. This principle is clearly illustrated by the liability of underwriters for a general average loss. A ship is insured against the perils of the sea, a part of the cargo is thrown overboard by reason of a peril of the sea, and the ship and owner become at once chargeable for a proportion of this loss of the cargo, and the underwriter is held bound by the policy to indemnify the owner of the ship for the sum he has to pay to make up the loss of the cargo. Here is no damage to the ship insured, but the sum thus charged upon the owner and ship for the cargo, is held to be a loss by the perils of the sea, for which the underwriter is responsible.

So in case of insurance against capture, the underwriter is liable not only for any damage the ship may have actually sustained by a capture, but also for all necessary expenses, such as salvage, &c., which the assured has been put to for the recovery of his property. Thus it has been determined that the underwriter is liable for a sum of money paid by the neutral assured to the belligerent captors as a compromise made *bona fide* to prevent the ship being condemned as a prize. So the liability of underwriters for salvage expenses depends not upon their having engaged to indemnify against them by any express words in the policy, for which the underwriter is liable, but they all depend upon the general principle that where the thing insured becomes by law directly chargeable with any expense, contribution, or loss, in consequence of a particular peril, the law treats such peril for all practical purposes as the proximate cause of such expense, contribution, or loss. Upon any other principle policies of insurance, instead of being a protection, would serve but to allure men to their ruin.

Upon this principle the liability of the defendants for the sum claimed in this suit would seem to be too clear for controversy. To hold that the defendants are not liable in this case, would conflict directly with the doctrine held in the analogous case which has been referred to, and thus introduce inconsistency into the law where consistency and uniformity are most essential.

The main ground of defense, however, relied on in the argument, is that there was negligence in the navigation of the plaintiffs' ship; that without this negligence the plaintiffs would not have been obliged to pay for the damage done to the steamer; and therefore that so far as respects the payment for damage to the steamer, the negligence was the proximate cause of the loss, and not the collision. Properly to estimate the force and value of this argument, it is necessary to inquire who, in case of a loss arising from one of the perils insured against, is responsible for the conduct of the master or mariner in the practical navigation of the vessel?

It seems to have been formerly held that underwriters were not responsible for losses which happened in consequence of the negligence of the master or crew in the navigation of the ship. This doctrine would go far to deprive the assured of the benefit and protection of his policy without any fault of his own, and would greatly lessen if it did not destroy, the usefulness of insurance. Some fault or negligence on the part of the master or mariners enters into almost every case of a loss or damage of a vessel at sea. The danger from such fault or negligence is one of the dangers which the assured has most reason to apprehend, and against which he most needs and may reasonably expect protection.

Besides, such a doctrine would be sure to involve the assured in perpetual controversies and litigation, in regard to the fact of negligence, whether there was or was not negligence, and what was the degree of the negligence, if any, and whether the loss was or was not in consequence of such negligence. These would be difficult and perplexing questions of fact, the decision of which would depend on many contingencies, thus involving the rights of the assured in ruinous doubts and uncertainties. To avoid such evils, and to give effect to the true meaning and intention of the parties, the modern decisions have established a different rule, and one much more in consonance with the principles and purposes of the contract of insurance.

The great principle now well established is that if the vessel, master, officers, crew, and equipments are competent and sufficient at the commencement of the voyage, the assured has done all that he contracted to do; he did not guaranty the faithfulness and vigilance of the master and mariners after the commencement of the voyage. The insurers are responsible, provided the actual loss arise from one of the perils insured against, though such peril may have occurred in consequence of the negligence or carelessness of the master and crew.

COMMERCIAL STATISTICS.

THE REPORT ON COMMERCE AND NAVIGATION.

Prior to 1850, it was customary to lay this report before Congress in manuscript. For several years we urged the importance of its being prepared and printed before the meeting of Congress. We wrote to members of Congress on the subject, and finally, through the late JOHN DAVIS, United States Senator from Massachusetts, succeeded in effecting that object. The following copies of documents accompanying the Report on Commerce and Navigation, will show the promptness and dispatch which characterize the Treasury Department under its present able and efficient management:—

TREASURY DEPARTMENT, October 12, 1855.

SIR:—In compliance with the provisions of the first section of the act of the 16th September, 1850, entitled "An act to provide for printing the annual report on Commerce and navigation," which makes it the duty of the Secretary of the Treasury to cause the said report to be completed at as early a day before the first Monday in January in each year as is practicable, I have the honor to state that the report for the year ending 30th June, 1855, has now been completed, being nearly three months in advance of the time designated in the said act.

The work will be forthwith placed in the hands of the public printer for the printing, binding, and distribution of the number of copies therein directed; all which it is expected will be accomplished, and the usual number of copies prepared for the use of the members of the two houses of Congress and their officers by the day of their approaching meeting, and consequently five weeks in advance of the time limited in the act for that purpose.

I shall cause this letter to be printed in the said volume, together with the letter of the Register of the Treasury, in whose office the statement has been compiled, the act above mentioned, and a table showing the periods when the reports have been heretofore successively completed for publication.

I have the honor to be, your obedient servant,

JAMES GUTHRIE, Secretary of the Treasury.

To the President of the Senate and Speaker
of the House of Representatives.

The statements of Commerce and navigation since the passage of the act of February 10th, 1820, have been completed for publication at the following dates, to wit:—

For—		For—	
1821.....	January 23, 1822	1838..	May 18, 1839
1822.....	January 18, 1823	1839.....	June 25, 1840
1823.....	February 11, 1824	1840.....	March 1, 1841
1824.....	February 16, 1825	1841.....	July 20, 1842
1825.....	March 20, 1826	1842.....	August 19, 1843
1826.....	February 24, 1827	1843.....	March 25, 1844
1827.....	April 16, 1828	1844.....	February 20, 1845
1828.....	February 18, 1829	1845.....	November 21, 1845
1829.....	February 3, 1830	1846.....	December 5, 1846
1830.....	April 26, 1831	1847.....	December 13, 1847
1831.....	May 2, 1832	1848.....	January 20, 1849
1832.....	February 13, 1833	1849.....	December 7, 1849
1833.....	April 21, 1834	1850.....	December 20, 1850
1834.....	March 2, 1835	1851.....	December 12, 1851
1835.....	May 18, 1836	1852.....	January 15, 1853
1836.....	March 3, 1837	1853.....	December 22, 1853
1837.....	May 18, 1838	1854.....	November 14, 1854

PROFITS OF SLAVE LABOR.

We cut the following from the *Liverpool Albion*. It purports to be taken from a work entitled "*Slavery Described by an Eye-witness.*" We have never seen the work:—

One evening, as I was returning to the house of my friend, I met a colored man. I asked him whether he was a slave. He said yes; and, in answer to a number of questions, he told me that his owner received \$130 a year for his services as a blacksmith, and that the man to whom he wrought fed and clothed him, and gave this money over and above to his master, and that he had eight children. Now, supposing the average length of a man's working days to be thirty years, this owner will receive \$3,900 for the labor of this one slave. Then his eight children, at twenty-one years of age, and after they have more than doubly paid by their labor for their maintenance during infancy, will bring, at the least, \$800 apiece, \$6,400. This, with the above, makes \$10,300.

One morning I went to the mill with my friend. While he was engaged in some business, one of the millers and I fell into a conversation, and, while we were standing at the door, a slave girl, of fourteen or fifteen years of age, went past us. Said I to him, "Is that your slave?"

"No," said he, "I have been trying to buy her from her owner, from whom I hire her, but he will sell her for no less than \$600. I have offered him \$500."

In answer to a great many questions he told me that the girl was honest, faithful, and industrious, and that such a slave was very valuable property; that his father once had a slave woman who wrought as a blacksmith, and had eleven children. Now let us estimate this woman's labor at \$100 a year. Thirty years would bring \$3,000; her eleven children, at \$800 each, would bring \$8,800; the two items, \$11,800. Was not this woman a valuable article to this miller's father?

STATISTICS OF THE COMMERCE OF THE UNITED STATES.

We have received from the compiler, MICHAEL NOURSE, Esq., late of the Treasury Department at Washington, (in manuscript,) "A General Statement of the Annual and Aggregate Foreign Commerce and Navigation of the United States from the 1st of October, 1820, to the 30th of June, 1854; together with Statements of the Commerce and Navigation with the several Foreign Countries during the same Period; also of each State and Territory, and showing the Registered and Enrolled Tonnage of each State in 1821, 1831, 1844, and 1851," compiled, as above stated, by Mr. Nourse.

These statements cover some ninety pages. It is, we understand, the intention of the compiler to offer them to our government; and as they present a clear and comprehensive statistical view of the commercial progress of the nation for the last thirty-four years, we earnestly hope that Mr. GUTHRIE, the present efficient Secretary of the Treasury, will adopt them as an appendix to his next financial report. Mr. Nourse, or some competent clerk in the Department, could readily add the present year, and thus bring the statements down to the latest period.

Sixty-one pages, or tables, are devoted to the foreign Commerce of the United States with the different foreign ports or countries with which we have commercial intercourse. These are followed by tabular statements of the foreign Commerce of each State and Territory, showing at a glance the value of our domestic and foreign exports, imports, registered and enrolled tonnage, and American and foreign tonnage cleared in each of the years from October 1, 1820, to June 30, 1854.

The value of these statements will be apparent to all who will take the trouble to examine the specimens which, with his permission, we here annex.

We have selected the first general table, and a table of our Commerce with England, and one of the States of the Union, which will sufficiently illustrate the character of the entire series:—

The ending of the fiscal year was changed in 1843 from September 30 to June 30, so that 1843 (marked thus *) represents but nine months; 1844, (marked thus †,) year ending June 30.

STATEMENT OF THE ANNUAL FOREIGN COMMERCE AND NAVIGATION OF THE UNITED STATES FROM OCTOBER 1, 1820, TO JUNE 30, 1854.

Years ending September 30.	Exports.		Total.	Imports.		Whereof in bullion and specie.		Tonnage entered.		Tonnage cleared.	
	Domestic.	Foreign.		Domestic.	Foreign.	American.	Foreign.	American.	Foreign.	American.	Foreign.
1821.....	\$43,671,894	\$21,302,488	\$64,974,382	\$62,855,724	\$8,064,890	\$10,478,059	\$8,064,890	765,098	81,526	804,947	83,073
1822.....	49,874,079	22,286,202	72,160,281	83,241,541	3,369,846	10,810,180	3,369,846	787,961	100,541	813,748	97,490
1823.....	57,155,408	27,543,622	74,699,030	77,579,267	5,097,896	6,327,987	5,097,896	775,271	119,469	810,761	112,740
1824.....	50,649,500	25,337,157	75,986,657	80,549,007	7,014,552	7,014,552	8,379,835	850,033	102,367	919,278	102,552
1825.....	66,944,745	32,590,643	99,535,388	96,340,075	8,932,034	8,932,034	6,150,765	880,754	92,927	960,866	95,080
1826.....	53,055,710	24,539,612	77,595,322	79,474,477	4,704,533	4,704,533	6,880,966	942,206	105,654	953,012	99,417
1827.....	58,921,691	23,403,136	82,324,827	79,484,068	8,151,130	8,151,130	8,151,130	918,361	137,589	980,542	131,250
1828.....	50,669,669	21,595,017	72,264,686	88,509,824	8,243,476	7,489,741	7,489,741	868,381	150,323	897,404	151,030
1829.....	55,700,193	16,658,478	72,358,671	74,492,524	4,924,090	4,924,090	7,403,612	872,949	130,743	944,799	133,006
1830.....	59,462,029	14,387,479	73,849,508	70,876,920	2,178,773	2,178,773	8,155,964	967,227	131,900	971,760	133,436
1831.....	61,277,057	20,033,526	81,310,583	103,191,124	9,014,131	9,014,131	7,305,945	922,952	231,948	971,994	271,994
1832.....	63,137,470	24,039,473	87,176,943	101,029,266	5,656,340	5,656,340	5,907,504	949,622	393,038	974,865	387,505
1833.....	70,317,698	19,822,735	90,140,433	108,118,311	2,611,701	2,611,701	7,070,368	1,111,441	496,705	1,142,160	497,039
1834.....	81,024,162	23,312,811	104,336,973	126,521,332	2,076,758	2,076,758	17,911,632	1,074,670	568,052	1,134,020	577,700
1835.....	101,189,082	20,304,495	121,493,577	149,895,742	6,477,775	6,477,775	18,131,447	1,352,652	641,310	1,400,517	630,824
1836.....	106,916,880	21,746,360	128,663,040	189,980,085	4,824,336	4,824,336	13,400,881	1,255,384	680,213	1,315,523	674,721
1837.....	95,564,414	21,854,962	117,419,376	140,989,217	5,976,249	5,976,249	10,516,414	1,299,720	765,703	1,266,622	756,202
1838.....	96,033,821	12,452,795	108,486,616	118,717,406	3,508,046	3,508,046	17,747,116	1,302,974	592,110	1,408,761	604,165
1839.....	103,633,891	17,494,525	121,028,416	162,092,132	8,776,743	8,776,743	5,595,176	1,491,279	624,814	1,477,928	611,839
1840.....	113,895,634	18,190,312	132,085,946	107,141,519	8,417,014	8,417,014	8,892,813	1,576,946	712,363	1,647,009	706,486
1841.....	106,382,722	15,469,081	121,851,803	127,946,177	10,034,332	10,034,332	4,988,633	1,631,909	736,444	1,684,156	736,849
1842.....	92,969,996	11,721,538	104,691,534	100,162,087	4,813,539	4,813,539	4,037,016	1,510,111	732,755	1,536,451	740,497
1843.....	77,793,733	6,552,697	84,346,430	64,753,799	1,520,791	1,520,791	22,390,559	1,143,523	534,752	1,268,083	523,948
1844.....	99,716,179	11,484,867	111,200,046	108,435,035	5,454,214	5,454,214	6,830,429	1,977,438	916,932	2,010,924	906,814
1845.....	99,299,776	15,346,820	114,646,606	117,254,564	8,606,495	8,606,495	4,070,242	2,035,486	910,563	2,053,977	930,275
1846.....	102,141,893	11,346,628	113,488,521	121,691,797	3,905,268	3,905,268	8,777,732	2,151,114	959,739	2,221,028	968,178
1847.....	150,637,464	8,011,158	158,648,622	146,545,638	1,907,024	1,907,024	24,121,289	2,101,359	1,220,346	2,202,393	1,176,605
1848.....	132,904,121	21,132,315	154,036,436	154,998,928	15,841,616	15,841,616	6,360,324	2,393,482	1,405,191	2,461,280	1,404,157
1849.....	132,666,955	13,088,865	145,755,820	147,857,439	5,404,648	5,404,648	6,651,240	2,658,321	1,710,515	2,753,724	1,675,709
1850.....	136,946,912	14,951,808	151,898,720	178,138,318	7,522,994	7,522,994	4,629,792	2,573,016	1,775,623	2,632,788	1,728,214
1851.....	196,689,718	21,698,293	218,388,011	216,224,932	29,472,752	29,472,752	5,453,592	3,054,349	1,939,091	3,200,519	1,929,535
1852.....	192,368,984	17,289,382	209,658,366	212,945,442	42,674,135	42,674,135	5,505,044	3,285,532	2,057,348	3,230,590	2,047,575
1853.....	213,417,697	17,588,460	230,976,157	267,978,647	27,486,875	27,486,875	4,201,382	4,004,013	2,277,930	3,766,789	2,298,790
1854.....	253,390,870	24,850,194	278,241,064	304,562,381	41,281,504	41,281,504	6,758,587	3,752,115	2,132,224	3,911,392	2,107,802

Years ending September 30.	FOREIGN COMMERCE OF THE UNITED STATES WITH ENGLAND FROM OCTOBER 1ST, 1820, TO JULY 1ST, 1854.			Whereof there was in bullion & specie.			Tonnage cleared.	
	Domestic.	Foreign.	Total.	Imports.	Exported.	Imported.	American.	Foreign.
1821.....	\$16,339,109	\$2,125,594	\$18,464,703	\$23,180,862	\$1,933,665	\$645,529	128,729	19,546
1822.....	21,072,395	1,029,224	22,101,619	32,108,947	795,218	99,920	161,030	30,238
1823.....	18,968,185	978,474	19,946,659	26,301,270	365,632	282,822	132,042	50,784
1824.....	18,218,841	1,268,282	19,487,123	26,647,922	312,112	149,164	140,125	42,310
1825.....	32,096,390	2,031,186	34,127,576	34,271,510	303,266	82,888	172,409	39,242
1826.....	19,065,185	1,569,223	20,634,408	24,362,203	572,533	122,216	147,455	41,801
1827.....	23,614,421	904,596	24,519,017	28,653,863	190,101	34,111	202,976	63,706
1828.....	18,737,661	2,960,261	21,697,922	30,476,139	2,309,775	20,972	133,353	75,583
1829.....	21,281,334	1,767,457	23,048,791	23,592,763	613,833	59,825	179,843	60,722
1830.....	23,773,020	826,946	24,599,966	22,755,040	112,229	144,231	192,714	58,589
1831.....	28,841,430	2,367,439	31,208,869	41,354,323	1,615,643	130,830	235,345	83,461
1832.....	26,635,768	2,875,137	29,510,905	34,849,096	1,112,293	83,639	137,579	96,615
1833.....	29,582,673	1,452,768	31,035,441	36,668,315	244	31,903	183,928	87,602
1834.....	38,673,694	2,974,726	41,648,420	45,566,665	270	5,805,613	216,256	89,836
1835.....	47,990,532	945,809	48,936,341	59,066,989	89,037	1,303,438	215,810	69,582
1836.....	53,302,483	1,874,737	55,177,220	75,761,713	2,509	2,322,920	233,817	78,450
1837.....	46,235,102	4,884,768	51,119,870	43,546,757	1,833,070	116,299	208,068	67,125
1838.....	48,899,888	1,545,188	50,445,076	44,191,851	10,185	9,009,346	344,616	76,668
1839.....	54,615,327	3,953,103	58,568,430	64,863,716	3,163,490	1,420,092	269,466	92,685
1840.....	51,951,778	5,096,882	57,048,660	33,114,133	4,383,786	803,306	388,512	130,768
1841.....	44,184,357	3,371,920	47,556,277	45,750,007	3,018,137	580,580	272,631	139,054
1842.....	36,681,808	2,932,140	39,613,948	33,446,499	1,702,748	206,919	235,479	139,054
1843.....	37,149,095	1,106,064	38,255,159	26,141,118	400	14,305,714	329,935	163,174
1844.....	45,814,942	1,125,214	46,940,156	41,476,081	85,706	1,131,959	311,741	192,583
1845.....	41,518,934	4,767,244	46,286,178	44,087,859	3,673,137	180,828	374,846	198,921
1846.....	42,731,619	1,758,489	44,490,108	43,844,160	973,110	482,711	364,149	183,942
1847.....	70,223,777	834,321	71,058,098	65,170,374	8,055	19,312,980	457,598	300,555
1848.....	62,928,024	8,924,291	71,852,315	59,763,502	9,318,633	1,916,932	476,548	258,211
1849.....	60,161,992	1,880,878	71,042,870	58,818,425	764,097	2,761,792	576,018	349,900
1850.....	64,886,959	4,210,371	69,097,330	72,118,971	2,534,185	527,266	440,582	269,078
1851.....	105,121,921	8,151,266	113,273,187	90,612,238	17,099,081	1,098,667	621,566	376,017
1852.....	107,788,657	4,336,185	112,324,842	88,119,859	34,302,284	1,478,484	672,488	306,017
1853.....	112,778,359	3,809,264	116,587,623	125,774,232	18,631,900	284,799	604,892	429,174
1854.....	135,111,708	5,563,631	140,675,339	140,338,733	29,228,975	85,166	858,970	438,246

FOREIGN COMMERCE OF THE STATE OF NEW YORK FROM OCT. 1, 1821, TO JULY 1, 1854, EXHIBITING ALSO THE DISTRICT TONNAGE IN 1821, 1831, 1841, AND 1851.									
Years ending September 30.	Exports.		Imports.		Tonnage cleared.		District tonnage.		
	Domestic.	Foreign.	Total.		American.	Foreign.	Registered.	Enr. & field.	
1821.....	\$7,896,605	\$5,264,318	\$13,160,918	\$23,629,246	158,174	10,720	118,750	130,416	
1822.....	10,987,167	6,113,315	17,100,482	35,445,628	185,666	17,784	.....	.....
1823.....	11,362,995	7,675,995	19,038,990	29,421,849	192,521	23,553	.....	.....
1824.....	13,528,654	9,368,480	22,897,134	36,113,723	222,271	18,142	.....	.....
1825.....	20,651,558	14,667,708	35,259,261	49,639,174	255,878	19,851	.....	.....
1826.....	11,496,719	10,451,072	21,947,791	38,115,630	214,664	21,365	.....	.....
1827.....	13,920,627	9,913,510	23,834,137	38,719,644	239,988	33,375	.....	.....
1828.....	12,362,015	10,415,634	22,777,649	41,927,792	217,113	42,373	.....	.....
1829.....	12,036,561	8,082,450	20,119,011	34,743,307	219,674	32,585	.....	.....
1830.....	12,618,278	6,079,705	19,697,983	35,624,070	229,341	36,574	.....	.....
1831.....	15,726,118	9,809,026	25,535,144	57,077,417	254,331	72,444	.....	.....
1832.....	15,057,250	10,943,695	26,000,945	53,214,402	242,749	101,967	.....	.....
1833.....	15,411,296	9,983,821	25,395,117	55,918,449	384,175	153,566	.....	.....
1834.....	13,849,469	11,662,545	25,512,014	73,188,594	361,606	238,650	.....	.....
1835.....	21,707,867	8,637,391	30,345,254	88,191,305	589,855	343,078	.....	.....
1836.....	19,816,520	9,104,118	28,920,638	118,253,416	477,424	355,591	.....	.....
1837.....	16,083,969	11,254,450	27,338,419	79,301,722	433,008	404,784	.....	.....
1838.....	16,432,433	6,376,088	23,008,471	68,483,206	515,759	328,763	.....	.....
1839.....	23,296,995	9,371,104	33,268,099	99,882,438	569,738	330,666	.....	.....
1840.....	22,676,609	11,587,471	34,264,080	60,440,750	518,202	343,114	.....	.....
1841.....	24,279,608	8,860,225	33,139,833	75,713,423	600,307	385,241	237,957	248,696	
1842.....	20,739,286	6,837,492	27,576,778	57,875,604	556,989	340,520	.....	.....
1843*.....	13,443,234	3,319,430	16,762,664	31,356,540	381,281	174,374	.....	.....
1844.....	26,009,177	6,852,363	32,861,540	65,079,510	978,313	414,625	.....	.....
1845.....	25,929,904	10,345,394	36,175,298	70,909,085	926,280	414,688	.....	.....
1846.....	29,585,866	7,349,547	36,935,413	74,254,283	1,120,944	425,942	.....	.....
1847.....	44,816,480	5,027,883	49,844,363	84,167,352	1,040,340	488,755	.....	.....
1848.....	38,771,209	14,679,948	53,351,157	94,525,141	1,004,316	705,373	.....	.....
1849.....	36,738,215	9,224,885	45,963,100	92,567,369	1,358,643	784,514	.....	.....
1850.....	41,502,800	11,209,989	52,712,789	111,123,524	1,411,557	757,539	.....	.....
1851.....	68,104,542	17,902,477	86,007,019	141,546,538	1,688,313	878,819	518,575	522,439	
1852.....	74,142,581	13,441,875	87,484,456	132,329,306	1,570,927	906,793	.....	.....
1853.....	60,130,355	12,175,935	78,206,290	178,270,999	1,959,902	1,084,742	.....	.....
1854.....	105,551,740	16,982,908	122,534,646	195,427,933	1,918,319	1,085,154	.....	.....

TRADE AND COMMERCE OF CINCINNATI.

We gave in the November number of the *Merchants' Magazine* tabular statements of the Commerce of New Orleans. We now publish similar statistics of the Trade and Commerce of Cincinnati:—

IMPORTS INTO CINCINNATI FOR FIVE YEARS, COMMENCING SEPTEMBER 1ST AND ENDING AUGUST 31ST EACH YEAR, DERIVED FROM THE CINCINNATI PRICE CURRENT.

Articles.	1860-1.	1861-2.	1862-3.	1863-4.	1864-5.
Apples, green	bbls. 16,934	71,882	19,845	31,479	15,971
Beef	1,101	1,609	1,118	1,841	1,766
Beef	18	1,145	295	58	4,608
Bagging .....	.....	74	119	174	85
Barley	bushels 111,257	89,994	225,844	286,536	204,224
Beans	31,037	14,137	26,439	21,332	17,173
Butter	8,259	10,203	16,484	16,842	10,185
Butter	11,043	13,720	11,391	11,692	7,132
Blooms	tons 2,727	4,036	3,928	4,836	4,099
Bran, &c.	sacks 50,976	131,014	62,629	65,045	71,416
Candles	boxes 696	653	2,882	815	1,145
Corn	bushels 489,195	653,788	723,334	745,455	845,579
Corn-meal	5,503	8,640	17,357	31,388	42,190
Cider	1,047	874	1,238	1,634	829
Cheese	casks 74	46	103	52	78
Cheese	boxes 205,444	241,753	212,337	216,892	183,379
Cotton	bales 7,168	12,776	16,550	22,513	15,107
Coffee	sacks 91,177	95,732	109,138	91,425	114,113
Codfish	drums 448	431	1,140	1,389	1,274
Cooperage	pieces 146,691	135,188	194,655	197,083	126,539
Eggs	boxes & barrels 5,956	10,544	14,833	15,608	12,104
Flour	barrels 482,772	511,042	449,089	427,464	342,772
Feathers	sacks 2,858	6,716	10,539	8,631	7,202
Fish, sundries	barrels 19,826	20,076	22,219	18,247	13,060
Fish	kegs & kits 2,694	1,075	3,935	6,448	5,266
Fruit, dried	bushels 41,824	24,847	44,515	73,150	58,047
Grease	barrels 876	1,986	3,152	6,623	5,236
Glass	boxes 37,099	44,004	42,963	36,767	41,635
Glassware	packages 28,619	36,602	34,646	51,806	26,090
Hemp	bundles & bales 13,254	18,334	20,079	11,759	8,672
Hides, loose	No. 28,132	54,647	48,808	38,875	31,505
Hides, green	pounds 25,424	54,905	35,178	42,720	101,535
Hay	bales 12,691	9,270	6,432	19,424	37,914
Herring	boxes 3,832	5,149	11,486	11,093	10,624
Hogs	head 111,484	160,684	420,594	525,273	496,360
Hops	bales 756	1,591	2,581	3,581	4,014
Iron and steel	pieces 225,039	194,107	294,001	380,405	505,892
Iron and steel	bundles 66,839	54,078	66,131	72,780	62,725
Iron and steel	tons 2,570	10,111	14,124	14,256	3,690
Lead	pigs 59,413	54,733	57,089	65,359	57,769
Lard	barrels 36,889	36,047	51,744	76,094	53,654
Lard	kegs 31,087	32,283	26,159	19,752	14,831
Leather	bundles 10,399	11,384	19,689	18,561	17,753
Lemons	boxes 3,377	4,434	7,138	6,695	7,855
Lime	barrels 57,537	64,817	75,745	87,037	62,913
Liquors	hogsheads & pipes 1,465	3,162	4,379	3,840	2,295
Merchandise and sundries	packages 175,938	458,703	538,056	846,190	833,915
Merchandise and sundries	tons 3,370	1,958	1,102	5,014	2,323
Molasses	barrels 61,490	93,132	115,112	86,430	56,237
Malt	bushels 21,356	33,220	43,759	42,646	44,498
Nails	kegs 83,761	64,189	104,159	101,546	94,689

Articles.	1850-1.	1851-2.	1852-3.	1853-4.	1854-5.
Oil.....barrels	6,764	8,305	10,507	11,228	8,345
Oranges.....boxes & barrels	9,302	4,557	8,934	5,779	13,239
Oakum.....bales	1,789	1,843	2,965	4,071	3,463
Oats.....bushels	164,238	197,868	283,251	487,423	480,178
Oil-cake.....pounds	194,000	247,400	14,000	135,000	134,447
Pork and bacon.....hogsheads	6,277	10,333	15,251	12,164	5,947
Pork and bacon.....tierces	1,183	1,987	3,550	2,736	6,770
Pork and bacon.....barrels	31,595	22,501	39,517	39,387	38,365
Pork in bulk.....pounds	14,631	16,532	26,868	27,059	18,551
	830	885	341	927	646
Potatoes.....barrels	19,649	20,739	15,585	35,244	29,982
Pig-metal.....tons	16,110	22,605	30,179	41,807	26,613
Pimento and pepper.....bags	2,027	1,425	5,590	7,174	2,325
Rye.....bushels	44,308	58,318	33,670	29,592	53,164
Resin, &c.....barrels	12,511	14,484	19,983	16,161	13,664
Raisins.....boxes	15,648	28,417	25,433	22,540	24,765
Rope, twine, &c.....packages	2,077	3,203	4,173	4,483	2,510
Rice.....tierces	4,780	3,782	5,346	3,242	3,899
Sugar.....hogsheads	29,808	39,324	49,229	64,461	46,953
Sugar.....barrels	18,584	15,237	24,004	25,441	19,465
Sugar.....boxes	3,612	2,259	2,115	2,349	2,697
Seed, flax.....barrels	20,319	48,074	51,752	40,850	24,189
Seed, grass.....	4,104	10,819	14,946	19,894	14,605
Seed, hemp.....	68	304	1,040	984	539
Salt.....sacks	50,474	91,312	71,626	66,372	72,105
Salt.....barrels	79,358	58,020	78,086	90,832	74,362
Shot.....kegs	1,567	1,658	1,145	2,889	2,583
Tea.....packages	7,821	12,810	22,379	14,199	20,724
Tobacco.....hogsheads	3,701	11,460	7,881	8,744	5,209
Tobacco.....bales	1,697	1,996	2,478	3,118	2,312
Tobacco.....boxes & kegs	19,945	23,060	48,201	30,235	24,802
Tallow.....barrels	3,682	5,930	3,463	4,230	3,288
Wines.....barrels & quarter-casks	3,401	4,482	9,563	7,544	3,384
Wines.....baskets & boxes	5,060	8,322	9,440	8,379	4,815
Wheat.....bushels	388,660	377,037	343,649	408,084	437,412
Wool.....bales	1,866	4,562	6,748	4,953	5,999
Whisky.....barrels	244,049	272,788	280,317	285,343	272,165
Cotton-yarn.....packages	5,577	10,336	7,362	6,879	7,052
Cotton-yarn.....pounds	124,594	167,002	115,841	114,767	65,741

In the above table, the figures for the years prior to 1852-3 embrace only the number of hogs received by public conveyance. Since that time the number driven to market during the packing season have been added.

VALUE OF PRINCIPAL EXPORTS FROM THE PORT OF CINCINNATI FOR THE YEARS ENDING AUGUST 31st, 1854 AND 1855.

Articles.	Total.	Average price.	Total value.	Total last year.
Apples, green.....barrels	3,427	\$2 50	\$8,567	\$14,417
Alcohol.....	19,956	26 40	528,838	311,047
Beef.....	17,584	11 50	202,216	251,594
Beef.....tierces	13,977	17 00	237,609	122,336
Beans.....barrels	1,297	7 00	9,079	10,169
Brooms.....dozens	18,275	2 25	41,119	32,342
Butter.....barrels	1,300	82 60	42,380	108,090
Butter.....firkins & kegs	24,196	11 00	266,156	415,950
Bran, &c.....sacks	11,456	80	9,164	10,071
Bagging.....pieces	2,485	2 80	6,958	16,799
Corn.....sacks	64,344	1 40	90,081	39,426

Articles.	Total.	Average price.	Total value.	Total last year.
Corn-meal barrels	2,772	\$2 90	\$8,088	\$1,057
Cheese casks	4	20 00	80	454
Cheese boxes	102,352	3 30	337,761	454,116
Candles	139,191	7 60	1,057,851	1,064,476
Cattle head	10,285	70 00	719,950	502,100
Cotton bales	10,021	44 00	440,924	664,135
Coffee sacks	42,283	18 50	782,235	778,144
Cooperage pieces	108,105	1 20	129,726	172,849
Eggs barrels	5,014	8 00	40,112	48,157
Flour	199,276	8 15	1,624,099	2,096,501
Feathers sacks	7,319	26 00	190,294	230,356
Fruit, dried bushels	13,029	2 00	26,058	35,203
Grease barrels	9,413	17 00	160,021	251,104
Grass-seed	7,330	16 00	117,280	215,625
Horses head	1,630	155 00	252,650	259,750
Hay bales	5,706	2 70	15,406	1,950
Hemp	2,918	35 00	102,130	117,650
Hides pounds	44,035	12	5,284	681
Hides No.	24,427	3 50	85,494	108,961
Iron pieces	604,861	1 50	907,291	543,817
Iron bundles	63,716	3 75	238,935	249,492
Iron tons	11,978	75 00	898,350	1,466,560
Lard barrels	43,799	20 00	875,980	1,084,616
Lard kegs	62,806	4 50	282,627	373,384
Lard-oil barrels	43,595	30 00	1,307,850	1,223,728
Linseed-oil	3,454	37 00	127,798	205,038
Molasses	45,150	12 00	541,800	507,048
Oil-cake tons	778	25 00	19,450	25,620
Oats sacks	42,282	1 25	52,852	3,773
Potatoes, &c. barrels	10,399	3 25	33,797	9,119
Pork and bacon hogsheads	42,469	60 00	2,548,140	2,363,040
Pork and bacon tierces	40,515	20 00	810,300	931,984
Pork and bacon barrels	104,275	14 50	1,511,987	1,619,500
Pork and bacon boxes	22,574	21 00	472,851	367,314
Pork, in bulk pounds	873,054	6	52,383	96,977
Rope, twine, &c. packages	3,909	7 00	27,363	72,380
Soap boxes	34,247	3 30	113,015	123,844
Sheep head	1,650	2 20	3,630	2,028
Sugar hogsheads	32,432	62 00	2,010,784	1,985,355
Salt barrels	36,333	3 10	112,632	111,735
Salt sacks	9,606	1 40	13,448	39,605
Seed, flax barrels	1,121	4 50	5,044	13,452
Sundry, merchandise packages	811,625	6 00	4,869,750	7,201,180
Sundry, merchandise tons	8,466	600 00	5,079,600	7,466,400
Sundry, liquors barrels	25,714	45 00	1,157,130	1,940,600
Sundry, manufactures pieces	347,564	4 00	1,390,256	1,527,838
Sundry, produce packages	141,925	3 50	496,737	325,576
Starch boxes	24,520	3 60	88,272	103,025
Tallow barrels	6,393	35 00	241,255	236,698
Tobacco kegs & boxes	26,077	23 00	599,771	676,302
Tobacco hogsheads	4,968	90 00	447,120	785,652
Tobacco bales	3,307	8 50	28,109	23,590
Vinegar barrels	8,643	2 50	21,607	16,260
Whisky	243,551	12 00	2,922,612	1,996,896
Wool bales	6,435	34 00	218,790	225,365
Wool pounds	4,482	28	1,254	425,790
White-lead kegs	55,218	2 20	121,479	148,562
Castings pieces	80,263	5 00	401,315	954,480
Castings tons	2,073	90 00	186,570	279,400
Total			\$38,777,394	\$45,432,780

NAUTICAL INTELLIGENCE.

NOTICE TO MARINERS.

The following highly important intelligence to mariners has been received from the Hydrographic Office, Admiralty, London, bearing date August 30th, 1855 :—

The colonial government at Mauritius has given notice that the light-towers lately in course of construction in that island being now completed, the following lights will be exhibited on and after the first day of December next, (1855):—

1. **REVOLVING LIGHT ON FLAT ISLAND.** The light tower on Flat Island (at the north end of Mauritius) stands on the highest part of the island, and at its south west angle, in latitude $19^{\circ} 53' 26''$ S., longitude $57^{\circ} 41' 12''$ E. of Greenwich. The illuminating apparatus is catadioptric or reflecting, and of the first order.

The light is *revolving*, its period of revolution being one minute, showing a bright light for twenty seconds, followed by an interval of darkness of forty seconds. It is placed at an elevation of 365 feet above the level of the sea, and will be visible from the deck of a ship at a distance of 25 miles in clear weather.

2. **FIXED LIGHT ON CANONNIER POINT.** The light-tower on Canonnier Point, at the north-west angle of the island of Mauritius, stands at the extremity of the point, in latitude $20^{\circ} 0' 35''$ S., longitude $57^{\circ} 35' 24''$ E. of Greenwich, and bears S. W. $\frac{1}{2}$ W. distant nine miles nearly from the light-house on Flat Island.

The light is *fixed*; it is of the natural color to seaward, and of the first order. It is placed at a height of 38 feet above the level of the sea, and will be visible at a distance of 10 miles in clear weather.

The object of this light is to indicate the position of a dangerous reef which extends off shore $1\frac{1}{2}$ miles from Canonnier Point, and to warn vessels from approaching too near the coral reefs which lie to the north-east and south-west of that point.

When seen from the southward on any bearing to the northward of N. E. $\frac{1}{4}$ E., the light will appear *red*, thereby warning the mariner (when within six miles of the light) that he is too near the land.

3. **HARBOR LIGHTS FOR PORT LOUIS.** A *green* light will be exhibited on a mast at the outer angle of Fort George, on the western point of Tonnellier or Cooper's Island, on the left or eastern side of the entrance of Port Louis harbor.

4. A *red* light will be exhibited on a mast in the Martello Tower, which stands at the entrance of Grand River, on its western bank, at $1\frac{1}{2}$ miles S. W. by W. of Fort George.

The object of these two harbor lights is to lead up to and mark the best anchorage off Port Louis. A vessel closing the *red* light on a S. S. W. bearing should drop her anchor directly the *green* light on Fort George bears S. E. $\frac{1}{4}$ S.

These bearings are all magnetic. Variation $11^{\circ} 47'$ west.

This notice affects the following Admiralty Charts:—Madagascar, east coast, No. 677; Mauritius, No. 711; Port Louis, No. 713; and East India Light-house List, Nos. 10 and 11.

ROCKS ON CORTEZ BANK, COAST OF CALIFORNIA.

The following is a letter from the Superintendent to the Secretary of the Treasury, communicating the position of a dangerous rock on Cortez Bank, coast of California, determined by Lieut. commanding Archibald McRae, United States Navy, assistant in the Coast Survey:—

COAST SURVEY STATION, DIXMONT, Me., October 10, 1855.

SIR:—I have the honor to report that, under the instructions of Lieut. Commanding James Alden, United States Navy, assistant in the Coast Survey, a dangerous rock on Cortez Bank, off the extreme southern coast of California, was sought for by Lieut. Commanding Archibald McRae, United States Navy, assistant in the Coast Survey, and determined to be in latitude $32^{\circ} 29' N.$, and longitude $119^{\circ} 04\frac{1}{2}' W.$, (both approximate.) The shoalest water on the rock is reported by Lieut. McRae to be three-and-a-half fathoms, subject to a possible tidal reduction of six feet, which might reduce it to two-and-a-half fathoms, or fifteen feet.

Lieut. McRae placed a buoy composed of two casks, with a flag-staff between, upon the shoalest part of the ledge to which this rock belongs, and which he represents as quite extensive. The buoy could be seen in clear weather about three miles.

I would respectfully request that a copy of this letter may be sent to the Light-house Board, that their attention may be directed to the placing of a beacon on this ledge.

I inclose herewith a Coast Survey sketch of Cortez Bank, from a reconnoissance by Lieut. Commanding Alden in 1853. In that examination the rock referred to was not found.

I propose to direct a minute survey of this dangerous locality.

I would respectfully request authority to publish the information contained in this letter.

Very respectfully yours,

A. D. BACHE, Superintendent.

HON. JAMES GUTHRIE, Secretary of the Treasury.

ANSWER TO A PROBLEM IN NAVIGATION.

In the *Humboldt Times* of the 27th of January, 1855, the following question was propounded:—

“When a ship is steering north by compass, with an easterly variation of eighteen degrees, what is the *true* course she is making?”

In answer to which the *Times* received notes from several sea captains, all of whom give the same answer, from which we publish the following, which we think will settle a question that has arisen on this coast. The correction of the variation of the compass appears to be very simple, and it appears singular there should be so great a discrepancy among sea-faring men as exists. For instance, some contend that when there is an easterly variation the *true course* is to the west of the course steered by compass, while the *books* and *experienced* navigators say the *true course* is to the east of that steered. Many attribute the loss of the steamer *Arispe* to that cause; that while making *actually* “easting,” the captain calculated she was making “westing.” If two vessels were to sail from the same port a distance of twenty-five thousand miles, with opposite ideas of the variation—if the compass varies eighteen degrees—they would be twenty-five hundred and two miles apart from each other in reckoning. A captain writes, “When steering north by compass she is making north by east half east, $1^{\circ} 7' 30''$ easterly, or north by east half east a little easterly.” He also sends us “*A Guide to Navigators*,” which settles the question.

TO CORRECT THE COURSES STEERED BY COMPASS.

The variation of the compass, which is usually found by observation, as already explained, must be applied to all courses steered, and on all bearings taken by the compass, in the following manner:—Suppose yourself placed at the center of the compass, and looking directly forward to the point you are to allow the variation from; then, if the variation be easterly, allow it to the right hand of the course steered, or bearing taken by compass; but if westerly, to the left hand; by which you will obtain the true course.

For example, suppose the course steered by compass is N. E. by N., and the variation is one point westerly; now, one point to the left hand of N. E. by N. is N. N. E., which is the true course required. Again; suppose I set a cape, and find it bear from me S. W. by compass, the variation being $1\frac{1}{2}$ points easterly; here $1\frac{1}{2}$ points allowed to the right hand of S. W. will give S. W. by W. $\frac{1}{2}$ W., the true bearing of the land.

Another says, "the above is correct." If you wish to make a *due* north course, where there is an easterly variation of eighteen degrees, your compass course should be to a point *eighteen degrees west* of north.

PETIT MENAN LIGHT-HOUSE, MAINE.

A new light-house and keeper's dwelling have been erected on Petit Menan Island, Maine:—

The tower is built of cut granite, and is the natural color of the stone. The dwellings are painted brown, and the iron work of the lantern is black.

The center of the light is 100 feet above the ground, and 125 feet above the level of ordinary high water.

The light will be visible in good weather at a distance of 17 nautical miles.

The illuminating apparatus is a lens of the second order of the system of Fresnel, and the light will be a fixed light until the 1st of January, 1856, when a fixed light, varied by flashes, will be shown, and will be continued during every night thereafter.

The following magnetic bearings have been taken from the light-house:—

To Narragaus Light-house, N. E. $\frac{1}{4}$ N., distant $5\frac{1}{2}$ miles.

To Nashe's Island Light-house, N. E. by E., distant 8 miles.

To Jackson's Ledge, E., distant 4 miles.

To South-east Rock, S. E. by S., distant 4 miles.

To Simms' Rock, S. $\frac{1}{2}$ E., distant 3 miles.

To buoy on Petit Menan Bar, N. $\frac{1}{4}$ W., distant $1\frac{1}{2}$ miles.

To Baker's Island Light-house, W. by S., distant 18 miles.

By order of the Light-house Board,

W. B. FRANKLIN, Light-house Inspector, 1st District.

CHANGE IN THE LIGHT OF GREIFSWALD ISLAND.

COAST OF PRUSSIA, BALTIC.

The Prussian government has given notice that on and after the 1st of October next, 1855, a Revolving Light will be exhibited at the new tower, recently completed on the northeastern end of the Island of Greifswald, on the coast of Prussia, at which time the two vertical Fixed Lights hitherto in use on that island will be discontinued.

In order to distinguish it from the adjacent Fixed Lights of Cape Arcona to the north, and Stettin to the south, as well as the Revolving Lights of Dars Point to the west, and Jershoft to the east—

The Greifswald Light is now a Revolving Light, presenting alternately a light of the natural color and a red light, these two lights being separated from each other by equal intervals of darkness.

The duration of each of these lights, that is, of the natural-colored light and the red light, and also that of the darkness between each of them, is 45 seconds, or three-fourths of a minute.

The tower is constructed of brick, the mortar being scarcely visible, and the light, which is 154 feet above the level of the sea, may be seen in all directions at the distance of 17 miles from the deck of a vessel.

It is in latitude $54^{\circ} 14' 45''$ north, and longitude $13^{\circ} 55' 27''$ east from Greenwich.

JOHN WASHINGTON, Hydrographer.

HYDROGRAPHIC OFFICE, ADMIRALTY, LONDON, Sept. 28, 1855.

This notice affects the following Admiralty Charts:—Baltic, No. 2,262; Coast from Bornholm to Rixhoft, No. 2,198; Baltic Pilot, p. 134; Lighthouse List, No. 138.

RAILROAD, CANAL, AND STEAMBOAT STATISTICS.

REGULATIONS FOR PASSAGE OF VESSELS THROUGH THE SHIP CANAL AT ST. MARY'S FALLS.

RULES AND REGULATIONS FOR THE MANAGEMENT AND PASSAGE OF VESSELS THROUGH THE ST. MARY'S FALLS SHIP CANAL, ESTABLISHED BY THE STATE BOARD OF CONTROL, JUNE, 1855.

1. The master of every vessel arriving at either end of the canal for the purpose of passing through the same, shall communicate his desire to do so to the superintendent, but shall not enter the canal or approach within 100 feet of the locks at the east end, or within 50 feet of the stone wharf at the west end of the canal, until the superintendent has given his directions so to do, under a penalty of not less than twenty-five, nor more than one hundred dollars.

2. Before the superintendent shall authorize the passage of any vessel into or through the canal, the master thereof will be required to furnish a duly certified statement of the enrolled tonnage or measurement of such vessel, and the place of enrolment; name and description, or character; the names of her owner or owners and master; the port of her departure and destination; the number of her passengers; and the amount, general character, and destination of her cargo. The said master will also be first required to pay over to the superintendent in gold or silver money, or its equivalent, the tolls chargeable for the passage of said vessel through the canal, as the same shall be determined by the superintendent.

3. The master of every vessel which shall be brought to at either end of the canal, within the distances from the locks and stone wharf before mentioned, and of every vessel which shall enter any portion of said canal, shall be subject to the directions of the superintendent thereof, and shall place and moor his vessel at such place, and shall move the same or fall back, as the superintendent shall direct, under a penalty of not less than ten, nor more than twenty-five dollars.

4. Upward-bound vessels will pass those bound down, by taking the towpath or south side; but no downward bound vessel must attempt to pass another vessel in any portion of the canal between the upper Caisson Gate recess and the locks, except at the basin; and when the basin is occupied by a vessel, no other vessel must enter the canal for the purpose of passing if there be one already in the canal bound in the opposite direction, under a penalty of twenty dollars for each and every offense.

5. All sail vessels shall have their yards and booms topped or braced up, and bowsprits and anchors secured, so as not to interfere with the locks or gates, under a penalty of ten dollars, besides cost of repairs.

6. Every vessel while passing the locks shall have out at least two good hawsers or check ropes—one at the bow and one at the quarter—which shall be attended by the boat's crew, to prevent collision with the gates and keep the vessel in place, under a penalty of twenty-five dollars.

7. It shall be the duty of every person having the charge of a vessel to ascertain for himself whether the locks are prepared to receive such vessel before entering, and upon entering, to stop the speed of his vessel in sufficient time to avoid collision with the locks or gates, under the penalty of such fine as the superintendent may impose, not exceeding five hundred dollars, besides cost of repairs.

8. When required by the superintendent, the master and crew of a vessel passing shall assist in opening and closing the gates, and operating the other fixtures of the canal, under a penalty of not less than ten, nor more than twenty-five dollars.

9. Every vessel navigating the canal, or lying to at either end of the same, in the night, shall exhibit the lights which are required by the act of Congress for vessels at sea, under a penalty of not less than twenty-five, nor more than one hundred dollars.

10. No vessel shall be propelled through the canal at a greater speed than four miles per hour, under a penalty of fifty dollars.

11. Several vessels lying to, or waiting to enter the canal, shall lie in single file, and advance in the same order in which they lie.

12. Any person who shall obstruct the navigation of the canal, by bringing into it a vessel of too great draft of water, or by sinking in it any vessel, timber, stone, earth, or other thing, or by placing upon the banks thereof any obstruction, shall be subject to a fine of not less than fifty or more than five hundred dollars.

13. No person in charge of a vessel shall cast anchor within the canal, or any channel leading thereto, or receive or discharge cargo or wood while in the same, without written permission of the Superintendent, under a penalty of ten dollars.

14. Lumber or timber must be so loaded upon the vessel so as not to project over the gunwale or side, under a penalty of twenty dollars.

15. Any steamer, propeller, sail vessel, scow, or other vessel not enrolled, wishing to pass the canal, may do so, subject to all the rules, regulations, and penalties prescribed for enrolled vessels, by the payment to the Superintendent of the tolls prescribed herein for enrolled vessels of the like tonnage; but in no case shall the tolls paid by such vessel be less than the sum of five dollars.

16. The canal and locks will not be opened for public use on the Sabbath, except for the passage of "vessels of the United States engaged in the public service, or in the transportation of property or troops of the United States."

17. The owners of all vessels entering or using said canal, locks, &c., shall do so with the express condition that it is at his own risk and peril, and that the State will not in any case become responsible for any damage or injury which any vessel may receive in consequence of any imperfections of the canal, locks, or their appurtenances, or from any cause whatever.

18. The owner of every vessel which shall enter or use said canal or locks shall be liable for all damage which may be done to the same by the vessel, her officers or crew, whether intentional or accidental, and shall also be liable for the full payment of such damage, and also of any and all fines and penalties which may have been imposed at any time on said vessel, her officers or crew, for such damage; and the said vessel shall also be liable to be seized by proper legal process for the payment of any such damage or penalties incurred.

19. No person shall occupy or use any portion of the banks, land, or appurtenances of the canal for any purpose whatever; nor shall any timber, stone, or freight be left upon the banks or piers of the canal without the permission, in writing, of the Superintendent, under a penalty of not less than ten nor more than twenty-five dollars.

20. No person shall build or repair, or heat or boil pitch, tar, or grease, for the purpose of repairing any boat, vessel, or other craft, within the canal or locks, or upon grounds belonging thereto, without the written permission of the Superintendent, and at such place as he may direct, under a penalty of not less than ten nor more than five hundred dollars.

21. No person shall throw into the canal, or any lock, basin, or channel thereof, or within two hundred yards of its entrance, any dead animal, or nuisance of any kind, or stones, timbers, bushes, or other rubbish, under a penalty of not less than ten nor more than fifty dollars; and any scow, boat, raft of timber or boards, found floating therein, shall be deemed forfeited, and may be taken up and sold by the Superintendent to pay costs and damages.

22. It is understood that the towage or moving of all vessels while in the canal, except when actually in the locks, or passing into or out of the same, shall be at the expense of the master or owners of the same.

There will be at all times ready, under the control of the Superintendent, careful and trusty men prepared to do towing for such as may require their services.

23. No person, other than those employed by the Superintendent for that purpose, shall open, shut, or handle any lock, gate, valve, or other part of the machinery or appurtenances of the canal, under a penalty of not less than five nor more than ten dollars.

24. All penalties hereby established for violations of the above regulations, shall be exclusive of, and in addition to, costs and payments for injuries done to the works of the canal.

25. All process for the collection of any of the fines and penalties and damages above fixed, shall be issued in the name of the "St. Mary's Falls Ship Canal," out of any court of competent jurisdiction, under the direction of the Superintendent of said canal.

26. No pike, pole, or other instrument, shod or pointed with iron, or other metal shall be used in or about the locks or canal, under a penalty of not less than five nor more than ten dollars for each offense.

27. The Assistant Superintendent, and any other person duly authorized by the Superintendent, shall have all the power and authority herein given to the Superintendent.

STEAM DICTIONARY.

BY EERAH COLBURN, EDITOR OF THE RAILROAD ADVOCATE.

Footboard. A plate iron board, behind the boiler, for the engineman and fireman to stand upon.

Frame. Made to attach to the boiler, cylinders, axles, and all cross-shafts, and binds the whole fabric together.

Frost Cocks. Cocks to admit steam to the feed-pipes, leading from the tender to the pumps used when the water becomes frozen.

Gaseous. Aeriform, or having the form of gas.

Gauge. As applied to railroads, means the width between the insides of the rails. The common width of gauge of the roads in the Eastern and Middle States, and in Indiana, Michigan, and Illinois, is 4 feet 8½ inches between the insides of the heads of the rails, or 4 feet 10¼ inches between centers. The New Jersey and Ohio gauge is 4 feet 10 inches, inside to inside. The gauge of most of the new roads of Virginia and of all the roads south of that State, and south of the Ohio River, is 5 feet, inside to inside. The Sciota and Hocking Valley Road, in Ohio, is of the gauge of 5 feet 4 inches. The Atlantic and St. Lawrence Road of Maine, the Canada roads, and those west of the Mississippi, (except in Iowa,) are 5 feet 6 inches, inside to inside. The Erie Road and principal tributaries, the Illinois and Wisconsin Road in Illinois, and the Ohio and Mississippi Road, are all 6 feet gauge. In England, the Great Western Road is 7 feet gauge. There has been much controversy as to the relative merits of the broad and narrow gauges. It appears, however, in practice, that more power is required to operate the wide than the narrow gauge. This word (gauge) is often improperly spelled *guage*.

Gauge Cocks. Cocks at different levels on the side of the fire-box, and to ascertain the height of water in the boiler. When opened, water or steam will escape, according as the level of the water is above or below them.

Generate. Used in its general sense, it is often introduced in mechanical writings to express the production of steam, heat, &c. A boiler is sometimes called a generator.

Gland. A bushing to hold the packing in a stuffing-box. The loose collar, as distinguished from the recess in which the packing is compressed, and which is in itself the stuffing-box. The term *gland* is not commonly used, that of "stuffing-box" being applied indiscriminately to the recess in which the packing is placed and the bushing employed to hold it.

Grade. The degree or rate of inclination of a road—its ascent or descent. Grades are expressed in feet per mile; a grade of 40 feet per mile, means a regular ascent at the rate of 40 feet perpendicular, in going one mile, or 5,280 feet. Every sloping grade is of course an inclined plane; but the latter term is applied particularly to grades where the trains are drawn up by ropes, worked by stationary engines. The highest or steepest grade upon which a locomotive has ever been known to ascend was 528 feet per mile, or one foot rise in ten feet forward. This was on the Baltimore and Ohio Road, a heavy engine taking itself and a loaded car weighing 12 tons

up without difficulty. Grades of 300 feet per mile are now worked on a temporary track of the Virginia Central Road. Grades of from 80 to 125 feet per mile are not unfrequent in the Middle States. To find the gravity of one ton of 2,000 pounds, on any grade, multiply the rise of the grade in feet per mile, by 3,787. Point off four figures for decimals, and the product will express the gravity in pounds. For tons of 2,240 pounds, multiply by 4,242 instead of 3,787.

Granular. As applied to iron, meaning a disposition of the particles of the metal in the form of small grains, as in the appearance of broken sugar.

Grate. The parallel bars which support the fuel in the fire-box. Always of cast-iron. The grates are sometimes made to be detached or dropped in the fire-box, so as to drop the fuel, particularly where coke is burnt. This is done to clear the grate of clinkers. In coal engines, the grate bars are sometimes made so as to receive an occasional rocking motion, intended to loosen the cinders. This rocking is effected by a hand lever, inserted in a hole in the projecting end of each pair of bars.

Gravity. The weight of bodies—the tendency which bodies, heavier than air, have to fall, or to seek the lowest level. On an inclined plane or grade, the load has a gravity which must be overcome before the load can be carried along or upward. The rule for finding the gravity on grades is given above, under the head of *Grade*, which see.

Guides. Rods or bars, often called "slides," lying in the direction of the axis of the cylinder, and guiding the cross-head, to insure a perfectly parallel motion of the piston-rod.

OLIVER EVANS AND THE STEAM ENGINE.

The editor of the *Pennsylvania Inquirer* has seen the original proposition, as made by Mr. Oliver Evans, to the "Lancaster Turnpike Road Company," for the construction of steam-engines and carriages, to transport merchandise and produce from Philadelphia to Columbia. It is dated "Philadelphia, September 6th, 1804," and the following estimate is made: An engine, \$1,500; a carriage, \$500; unforeseen expenses, \$500. Total, \$2,500. Mr. Evans thought that this carriage would be able to transport one hundred barrels of flour at the rate of three miles per hour on level roads, and one mile per hour up and down hill. In other words, at about two miles per hour on an average. And thus he believed that the trip could be made from Philadelphia to Columbia in two days. At that time it required five wagons with five horses each, to transport one hundred barrels of flour the same distance in three days, and at an aggregate expense of \$3,304. The gain, therefore, by the new plan, would be upwards of \$800. This, be it remembered, a little more than half a century ago. Mr. Evans also stated that he had invented the only steam-engine calculated for the purpose. The following extract from his memorial will be read with interest:—

"I might as well have made this improvement about twenty years ago, when I first conceived the means by which it is to be effected. But prudence has compelled me to suspend my natural inclination and capacity for invention, and confine my improvements to such things as I was immediately interested in. During the revolution I made wire, wool, and cotton cards. My improvements in these arts exceeded all known here at that time. I have no doubt but that my engines will propel boats against the current of the Mississippi, and wagons on our turnpike roads with great profit."

We have also, adds the *Inquirer*, been shown a manuscript endorsed by Oliver Evans, and probably written by one of his family, in which is given a detailed account of the invention of steamboats. He states that in 1775 or 1776, he conceived the idea of

propelling boats with his engines, by means of wheels at the sides, and communicated his discovery to others—namely, to George Latimer, in 1777, and to Evan and Joseph Evans, both of whom were then living to testify. In 1784 he matured in idea, and by experiments, a steam-engine applicable to the purpose of propelling carriages and boats so far, that he petitioned the Legislature in 1786, to secure to him the right of propelling land-carriages, and obtained acts of the Legislatures of Maryland and New Hampshire. He did not include steamboats, having been informed that Col. James Ramsey and John Fitch had been engaged in constructing steamboats, and were contending for priority of invention. He yielded to them, and he states that Fitch prevailed. The document from which the above extract is taken, is quite voluminous, but deeply interesting, and we hope to be able to give it at length at some future time.

DEVLAN'S RAILROAD CHAIR AND RAIL.

A new railroad chair and rail, the invention of a Pennsylvanian named Devlan, is mentioned in the *Pottsville Register*. The rail is a hollow tube of wrought iron, made as gas pipes are, by drawing the metal through dies.

The average wear of railroad iron is seven years—that is, they are constantly laying down new rails along roads, and the calculation is, that in seven years they have done sufficient to relay the whole road. In this work of relaying the track, the danger to life and property is very great. By the use of the Devlan rail, when one side wears, a man goes along the road and simply turns it with a wrench, and so on as often as they like. The rail being a tube, as all mechanics know, with the same weight of iron is at least three times as strong; the wheel treads on it as well, and is not so liable to run off the track, as it is a perfect inclined plane, and no sharp corners to catch the flange of the wheel.

Aside from the fact that this new rail will last five times longer than the kind in use, it should be remembered that the cost of its production is very low. The manufacture of railroad iron is at present a monopoly, and not very profitable at that, because it requires an enormous amount of capital to carry it on. The new process of manufacture, on the contrary, places it within the power of every iron master in the Union to make railway rails at a trifling expense. In view of the magnitude of the railway interest in this country, the invention of an improvement such as that of General Devlan, becomes of the greatest importance.

The chair is of cast iron, with a socket at each side, into which the rail slips, making a perfect joint, and allowing it to remove, when it is desired to turn it.

RAILROADS IN THE STATE OF CONNECTICUT.

The Railroad Commissioners of Connecticut have made their report. The first railroad charter in the State was granted in 1832, and the first train was run in 1839. Since that time fourteen railroads have been constructed in whole, or in part, embracing 644 miles of rail within the State, and about 100 miles in process of construction not including 111 miles of double track upon the New York and New Hampshire and Spring roads. The railroad capital in the State is \$23,657,553, without including the Air Line road, which will add \$1,000,000 to this amount. Of this capital \$18,500,000 has been actually paid in, and this last sum has earned a dividend of only \$459,709 during the year. The cost of the roads has been \$28,884,483; the gross earnings \$8,527,225; expense of working \$2,354,291; net earnings \$1,019,583; dividends \$459,709; debts \$10,785,156; surplus (nominal) \$266,536. The casualties have been

very small. Out of 2,958,698 passengers carried in the cars, but two have been injured; of persons not passengers 19 have been killed and 8 injured, most of them by being on the track when they had no business there. The death of the two passengers was caused by their carelessness in jumping from the cars at improper times.

MERCHANT SHIPS AND STEAMERS.

PROPORTIONS OF VESSELS—LARGE SHIPS FOR LONG VOYAGES.

In a late number of the London *Mechanics' Magazine* there is some very interesting information respecting large steamships and the proportions of their length and breadth. This was elicited in a discussion at a meeting of the London Institution of Civil Engineers, on a paper which had appeared in the *Edinburgh Journal* on "Ocean Steamers."

LENGTH AND BREADTH. One steamer in England, named the *Wave Queen*, had been built of proportions thirteen times longer than her breadth; it sailed very fast, and was found to be a good sea boat.

LARGE SHIPS. The President of the Institution alluding to the large steamship of 10,000 tons which is proposed for construction, said "the advantages of employing a smaller number of large ships rather than a greater number of small ships, for given trades, especially for long voyages, was beginning to be generally admitted by ship-owners. A paper was published in the *Liverpool Albion*, of November 21st, 1853, which presented the results of that experience in a remarkable form. The ships now employed in the American and British trade had been greatly augmented in size, and with the best results; but these would be too small for the Australian trade. Every particular steady trade, no doubt, demanded peculiar vessels for that trade, and their size must be proportioned to the length of the voyage." The conclusion of the discussion resulted in a general acquiescence of this principle.

STEAMBOAT TRADE OF ST. LOUIS.

The local steamboat inspectors of St. Louis have made their third annual report, from which it appears that the tonnage of St. Louis figures up nearly 33,000 tons, and the number of boats inspected during the year is 91.

The number of passengers carried for the year ending September 30, was greatly in excess of any previous year—the difference over the year ending September 30, 1854, reaching the enormous aggregate of 544,844. The total for the year was upwards of one million and forty-six thousand; and of all these, by accidents to be imputed to the craft—sinking and burning of boats, escape of steam, and spar-breaking while aground—the deaths were only twenty-eight. This is an unusually small per centage. That not a single death occurred from explosion during the year is a remarkable and most gratifying fact, and shows that either by better machinery or more carefulness of engineers and officers, or doubtless both combined, a great change for the better, in this respect, is taking place. The lives lost by the boats burning were thirteen, being forty-two less than in the previous year. The total loss of life shows a reduction of sixty-one, although upwards of half a million of people were carried more than in the previous year. The number of boilers repaired was fifty-two. The loss of property, however, by snagging and sinking, was so great during the year as to be entitled to serious attention. The inspectors estimate it at over two millions. This great sacrifice was owing to causes against which no care, experience, and prudence, can at all times guard; and the Board very properly reason from it to some practicable plan of improving the rivers.

JOURNAL OF MINING AND MANUFACTURES.

IRON INDUSTRY OF THE UNITED STATES.

From an abridged copy of Professor Wilson's special Report on the New York Industrial Exhibition, lately published, we extract the following, relating to iron ores and the manufactures:—

The very general distribution of iron ores throughout the Union, and the abundance of fuel which the natural forests everywhere readily supplied, gave facilities for the manufacture of iron, which in the early days of the industry was carried on in various parts of the States, and in many formed the only source from which the inhabitants could obtain their scanty supplies. Possessing in common with the other States both of the raw materials—the ores and the fuel—the New England States, owing to the advanced education and general commercial energy of her people, led the way in identifying themselves with the new industry, by forming establishments where it was carried out on a more extensive scale. Gradually, however, the existence of mineral fuel in Pennsylvania gave an advantage to that State which soon showed itself by the rapid growth of her iron industry. This continued annually to increase, while the scarcity of fuel in the New England States rendered them less able to meet the increasing demands of the market which they themselves had principally created. In 1830, anthracite coal was successfully used in smelting ores, and when, some few years later, it was shown that the hot blast could be as advantageously applied to anthracite as to other furnaces, this State became at once the great center of the industry, and speedily assumed the control of the home market. This position she has held up to the present time, and must hold it for some years to come, until the iron making resources of the States west of the Alleghanies are sufficiently developed to enable them to compete in production with their more advanced neighbors.

These great resources are as yet but very imperfectly known; geological investigations have long ago made known the existence of beds of fuel to a boundless extent, and so disposed as to offer natural facilities for working which cannot be without their results on the industrial uses to which they are applied. With these beds are associated, probably throughout the greater part of their area, beds of ironstone similar to that which we find in the coal measures of our own country. These give to this region a material advantage over that east of the mountain range, where the coal formation is entirely destitute of the ore beds which seem to be so bountifully distributed throughout the great bituminous coal field on the western side. Thus, while the smelting furnace in the one district finds a ready supply of both ore and fuel immediately at hand, the location of the other has to be determined by calculations based upon the comparative cost, and other circumstances attendant upon the transport to the furnace of the two necessary materials—the fuel and the ores.

The manufacture of iron has hitherto distributed itself on the line of the great rivers, which are the natural feeders to the canals by whose medium the produce has been conveyed to the consuming districts. Thus we find the chief seat of the iron manufacture to be:—

1. On the Housatonic River, traversing the State of Connecticut. The production of this district is limited to charcoal iron, of the best quality, obtained from hematite scattered along the shores of the river. Spathic iron ore has recently been discovered at Roxburg and Munro. The make of this division is consumed chiefly in the immediate district.

2. On the Hudson River, traversing the State of New York, in a line nearly parallel to the former river. On this line a large production of iron by anthracite coal, which is delivered at an average rate of \$3 50 per ton, is rapidly springing up. The rich magnetic iron ores (iron 71.79, oxygen 28.21,) which are traced for miles along the western side of Lake Champlain, yielding from 60 to 65 per cent of metal on the furnace, can be mined and delivered to the coal on the Hudson at an average cost of \$3 per ton. On the Hudson there are six large anthracite furnaces, and on Lake Champlain three more; but in the latter district the chief production is with charcoal, the ore being made in a kind of Catalan forge or bloomery.

3. On the Delaware and Lehigh Rivers, the former of which separates the State of

New Jersey from Pennsylvania, and empties itself into the Atlantic at Cape May; and the latter joins the Delaware at Easton, about 270 miles up. The Lehigh leads straight up the north-east extremity of the first great anthracite basin, known as the "Schuylkill." Easton is about equi-distant from the anthracite coal field of Pennsylvania and the primitive ore range of New Jersey, while all around there are extensive beds of hæmatite, yielding about 50 per cent of metal. The Trenton Iron Company at this place have three large furnaces in operation—two with a diameter of 20 feet, and one of 22 feet—giving an average production of 500 to 600 tons per week. On looking over the returns, which were liberally shown, some extraordinary runs were observable, amounting to upwards of 240 tons per week from the 20 feet furnace, and continuing at that rate for several weeks together. Higher up the river are the works of the Glendon Iron Company, containing four large blast furnaces. Here, in order to economize space in the engine-house, the blowing cylinders are placed immediately over the steam cylinders of the engine, so that the same piston-rods, by a reciprocating movement, work the two cylinders at the same time. At Catasauqua the first furnaces in the States for the use of anthracite iron were erected, and Mr. Crane, in the year 1837, here first successfully applied hot blast to anthracite in iron smelting. In all the works visited, economy of production was strictly adhered to. The air was heated by the waste gases of the furnaces, and in most cases the whole steam-power, whether for driving the blast or for other purposes, was generated in boilers set in the upper part of the furnace, and arranged so that the heated gases played around them.

4. On the Schuylkill River, which runs into the Delaware a short distance below the city of Philadelphia, there are found, throughout the whole length of the valley, large deposits of hæmatite ores; these, however, are not so rich as those of the Lehigh; while the supply of the primitive oxides and carbonaceous ores is very scanty. Upon this river there are eighteen blast furnaces using anthracite coal. Besides these there are several small charcoal furnaces, whose fires are gradually waning away, though they still support the character of the American iron by the very excellent article produced.

5. The Susquehanna, another of the great parallel rivers running from the highlands of the interior down to the ocean, and which debouches, just below Havre de Grace, on the upper extremity of Chesapeake Bay, has along its banks large deposits of iron ore. As it traverses the three large coal fields—the Shamokin, the Schuylkill, and the Wyoming—and is well supplied with artificial modes of transport, it offers very great advantages in the manufacture of iron.

6. The Potomac, taking its course some 60 or 100 miles south of the Susquehanna, and running into Chesapeake Bay about midway from the ocean, is abundantly supplied with ores, chiefly hæmatites of good quality. Charcoal is the fuel chiefly used, although the increasing means of communication with the Cumberland coal field, and also with the anthracite basins of the Susquehanna, have given great advantages in the way of fuel to those furnaces placed within reach of the lines of transport.

7. The Ohio, the Cumberland, and the Tennessee, are still only partially developed, charcoal as fuel, and the hæmatite ores, which are found on the outskirts of the great Appalachian coal field, being the sources from which the principal portion of the iron is now produced. In the upper part of the Ohio, in the Pittsburg district, more progress has been made; the furnaces are being worked with raw bituminous coal, and with the clay carbonates mixed with hæmatites. Limestone is also found in the immediate vicinity. Besides the production of these eight principal iron districts, a large quantity is made in widely dispersed localities, with charcoal as fuel, in small blast furnaces, or in the primitive forges or bloomeries.

The gross amount of iron produced in the several States of the Union for the year 1850, as given in the census returns, is 540,755 tons. The number of hands employed is given at 20,298, and the market value of the produce is estimated at \$12,489,077. Taking the present production of pig-iron at 800,000 tons, about one-half of it is consumed for castings, and the remaining portion is left to be converted into wrought iron, at a loss in waste, &c., of about one-third. This, for practical purposes, reduces the total or available production about 130,000 tons, and leaves in round numbers 700,000 tons to meet a consumption of not less than 1,200,000 tons. This deficiency must be supplied by the produce of other countries.

The number of establishments for the conversion of pig into wrought iron in the United States is given in the Treasury returns at 422. These establishments have an invested capital of between fourteen and fifteen million dollars, and give direct em-

ployment to upwards of 12,000 workmen. The total amount manufactured in the States may be taken at 500,000 tons per annum. In general, the wrought iron works are carried on as a distinct business from the manufacture of pig-iron. The following establishments, however, combine the whole process of smelting and puddling:—the Trenton Iron Company, at Easton and Trenton, New Jersey; Fuller & Lord, at Boonton, New Jersey; Reeves, Buck & Co., Phoenixville, Pennsylvania; Reeves, Abbott & Co., at Safe Harbor, Pennsylvania; the Montour Iron Company, Danville, Pa.; and the Mount Savage Iron Co., Maryland. The principal cause of the separation of the two branches is probably due to inadequacy of capital to carry on both.

Rolling mills for plate and bar iron are met with throughout the States in which iron is produced. In Pennsylvania the establishments for the conversion of cast into wrought-iron are numerous. At one of the country rolling mills charcoal blooms were being used, which were first worked up in a puddling furnace, and then tilted; after which they were again heated, and rolled out into plates of the required dimensions. Charcoal boiler-plate fetches a higher price, and is always guaranteed by the maker, as, owing sometimes to an imperfect process of reduction in the forge, a small portion of the fuel is left mixed up with the metal, and remains even after it has passed the puddling furnace and the tilt-hammer. To detect the flaw in the iron when rolled out requires great care on the part of the foreman, who carefully notices, after it has left the rollers, whether the surface cools equally all over; if any black spots appear, they show that the plate is imperfect and contains cavities in which carbonaceous matter is usually found. The spots are then marked, and the plate laid aside. In the hands of the engineer they again undergo an examination; the practice of the boiler makers being to rule them off in one inch squares, and then test each square with the hammer, the expenses attending any unsoundness falling upon the maker.

IMPROVEMENTS IN MACHINERY.

THE STEAM HAMMER.

The London *Mining Journal* furnishes the subjoined description of Morrison's improved "*Steam Hammer*:"—

Mr. Robert Morrison, of Newcastle-on-Tyne, has made some improvements in the steam hammer, his object being to prevent the great wear and tear, and liability to that derangement or breakage which, he states, has been experienced in the ordinary steam hammers, forming a serious drawback to the use and efficiency of this valuable tool. In Nasmyth's hammer, the head is attached to the piston-rod, and is guided by side cheeks in the frame, a shallow rib entering a groove on each side of the hammer-head. Considerable play is necessarily left for the fall of the hammer, causing a violent shake and jar at each blow; while the blow, being seldom in the center of the face, a side jar is the result; the constant repetition of these shocks indents and wears away the hammer-face and guides, increases the display to an injurious extent, displaces the packing, and often breaks the piston-rod. In Condie's hammer the motion is reversed, the piston and rod are fixed, the cylinder forms the hammer, having the head fixed below, and is guided by rubbing against the side cheeks of the frame at the top and bottom; the steam is admitted through the piston-rod, which is hollow. By this arrangement the jar is not communicated to the piston, but the rubbing surfaces of the hammer-guides are exposed to a similar injurious action, and the blow of the hammer is liable to break the cylinder.

In Morrison's hammer the cylinder remains fixed; the piston-rod itself forms the shaft of the hammer, being enlarged in diameter, and prolonged through the top of the cylinder, above which the upper end is steadied by sliding between guides. The hammer is guided by two large stuffing-boxes at the top and bottom of the cylinder, works with steadiness and freedom from friction, the rubbing surface being a turned cylindrical piston-rod, fitting closely in stuffing-boxes, instead of sliding loosely between the cheeks of the frame. The hammer-head of the machine, which the patentee

has had in operation at the Ouseburn Engine Works, Newcastle, weighs 2 tons, with a clear fall of $3\frac{1}{2}$ feet; it has been tried with 35, 40, and 50 pounds pressure of steam, but has been found to work best at 40 pounds per square inch. The hammer-bar and piston-rod are of wrought-iron, 10 inches in diameter, the piston forged solid upon it in the middle of its length, a groove being turned upon its circumference to receive a single brass packing ring, one-quarter inch thick, packed behind with hemp. The upper cross-head is also forged in one piece with the bar. The hammer at the Ouseburn Works has been working day and night, double shift, for five months, during which period there has not been half-an-hour lost by any derangement in the hammer, the packing remains as good as when put on, and the cover has not been taken off since the hammer started. The large stuffing-box was packed with hemp, had not been unpacked for nine weeks, and no enlargement perceptible in the gland.

With the working piston-rod and hammer in one solid piece, the liability to fracture and derangement is much diminished, whilst the hammering blows are of superior solidity and effect; and the bolting of the steam cylinder between the frame standard, immediately above the anvil, provides a most powerful stay for tying the frames well together, and preventing all lateral springing. The hammer-face is thus most accurately directed down upon its work, by which shoulders, collars, and other projections, can be forged down with certainty to their proper size and form by the side of the hammer without any oblique thrust. The height of the arch in this machine is important, and the position of the steam cylinder in front of the standards realizes a great advantage, as, when the hammer is actually between the frame pieces, the mass of iron must be angled before it can be hammered; or, if it cannot be angled, the man must stand in a dangerous position beneath the arch; but, in the patentee's arrangement, the hammer is quite clear of the framing, so that the forgeman can swage, shape, or cut, any work he may have in hand, without the necessity of standing beneath the arch.

GREATEST DEPTHS OF MINES IN THE WORLD.

According to the *London Mining Journal*, Wheal Abraham attained (rather more than twenty years ago) a depth of about 242 fathoms, or 1,452 feet, (a fathom being six feet); Dolcoath Mine had reached 235 fathoms; Tresavean Copper Mine is gradually becoming extraordinarily deep, and it is last reported as being 2,112 feet under the surface, and about 1,700 feet below the level of the sea. The Consolidated Mines are 300 fathoms (1,800 feet) deep, and the United Mines 280 fathoms below the adit level. Let the reader realize these depths by imaginary pilings of the highest buildings, as St. Paul's and the Monument, on themselves, a sufficient number of times to attain the respective amounts! Speaking of mines generally, the Eselschacht Mine, at Kuttenberg, in Bohemia, now inaccessible, was deeper than any other mine, being no less than 3,778 feet below the surface. Its depth is only 150 feet less than the height of Vesuvius, and it is eight times greater than the height of the pyramid of Cheops, or the cathedral of Strasburg. The bore of the salt works of Minden, in Prussia, is 2,231 feet deep, and 1,993 feet below the level of the sea. Mines on high ground may be very deep without extending to the sea level. That of Valenciana, near Guanaxuato, in Mexico, is 1,686 feet deep; yet it is 5,960 feet above the level of the sea, and the mines in the Andes must be much more. For the same reason the rich mine of Joachimsthal, in Bohemia, though 2,120 feet deep, has not yet reached the sea level. The fire-springs at Tseu-lien-tsing, in China, are 3,197 feet deep, but their relative depth to the sea level is unknown. How insignificant are the works of man compared with nature! A line, 27,600 feet long, did not reach the bottom of the Atlantic Ocean.

MANUFACTURE OF CURRANT WINE.

This article, as usually manufactured, is rather a cordial than a wine, and is entirely inferior to the commonest imported wine, but when properly made, it will be found a very superior healthful beverage, particularly for summer drink, when fully diluted with water.

We have experimented carefully on the making of currant wine, and the following will be found to give a result which we have found no difficulty in selling in large quantities at \$1 per gallon.

Before pressing the juice from the currants pass them between a pair of rollers to crush them, after which they may be placed in a strong bag, and they will part with the juice readily by light pressure, such as a common screw, heavy weights, etc. To each quart of juice add three pounds of double-refined loaf-sugar—single-refined sugar is not sufficiently pure—then add as much water as will make one gallon. Or in other words, suppose the cask intended to be used, 30 quarts of currant-juice, 90 pounds of double-refined sugar, and fill the cask to the bung with water; roll it over until the sugar is all dissolved. This will be told by its ceasing to rattle in the barrel. Next day roll it again, and place it in a cellar where the temperature will be sure to be even. Leave the bung loose for the free admission of air. In the course of one, two, or three days fermentation will commence; by placing the ear to the bung-hole a slight noise will be heard, such as may be observed when carbonic acid is escaping from champagne or soda water. Fermentation will continue a few weeks, converting the sugar in alcohol. As soon as this ceases, drive the bung in tightly, and leave the cask for six months, at the end of which time the wine may be drawn off perfectly clear, without any excess of sweetness.

The reason why double-refined sugar should be used may be thus understood:—Ordinary sugar contains a half of one per cent of gum, which, when dissolved in water, becomes fetid. Suppose, then, four or five ounces of gum dissolved in a barrel of water, we can readily understand that at the end of a few months this water will be very foul in flavor, and most of the currant wine offered for sale, made from loaf-sugar of common quality, and often from sugar very inferior to this, such as white Havana, etc., contains gum in this fetid condition, and its foul flavor is an amalgamation of sugar, currant-juice, and fetid gum. When double-refined sugar is used all these difficulties are avoided.

No alcohol should be added. The practice of putting in small quantities of brandy and other liquors, makes a cordial, and not a wine. All the sugar used may be so much fermented as at least to change its character chemically, and this change will produce all the alcohol required.

SOME ACCOUNT OF THE ZINC OF COMMERCE.

By the analysis of the most ancient coins, and of metallic vessels taken from the excavations at Herculaneum, it is found that they contain a portion of zinc; yet, to the moderns, zinc is a new metal. Less than a century ago, zinc was not considered as a metal at all—Homberg, a philosopher, who wrote about that period, says:—"Zinc is a compound of iron and tin;" thus implying that it had no individual existence, but that it was a compound. Such, however, is not found to be the case by modern chemists. Indifferent as we are to a "bit of zinc," there are few substances that have rendered more service, or been more instrumental to the cause of science and the progress of knowledge, than this metal. Considered in relation to its own qualities, it possesses rare interest. Certain combinations of this metal with copper, under the

euphonious names of *tombac*, *brass*, *pinchbeck*, have been used in the arts, especially in China, from time immemorial. In the Celestial Empire, zinc in great purity is used for current coin. This money has frequently Tartar characters on one side, and Chinese characters on the reverse. Certain combinations of zinc, and called white vitriol, (i. e., sulphate of zinc,) and another, flowers of zinc, (oxyde of zinc,) are of great importance in medicine. The mechanical uses of metallic zinc are very numerous, giving rise to regular trades for the fabrication of zinc ware. The white oxyde of zinc is coming daily into use as a harmless substitute for the poisonous white-lead in painting. Iron chains and wire exposed to the air or water, are all now dipped into melted zinc before they are put to use. This operation, which is called galvanizing, entirely prevents the iron from rusting. There are many other uses of zinc, but which we cannot detail here. The great service, however, which zinc has rendered to man is in the galvanic battery. Without electricity many arts would cease to exist, yet, for practical and commercial purposes, we could not generate electricity without zinc. What steam owes to coal, electricity owes to zinc. Whenever steam is used, coal is consumed; whenever electricity is used, zinc is consumed. Thus we find that electroplating and the wonders of telegraphic communication are indirectly indebted to zinc, and by the use of the telegraph we are enabled to answer Job (xxxviii., 35,) in the affirmative, who, 2,000 years ago, asked, "Canst thou send lightnings, that they may go and say unto thee 'Here we are?'"

EARLY MANUFACTURES IN NEW ENGLAND.

Fire-arms were manufactured in large quantities in colony times. Hon. Hugh Orr, of Bridgewater, about 1748, made 500 stands of arms for the province of Massachusetts Bay, which were deposited in Castle William; nearly all, however, were carried off by the British when they evacuated the town of Boston. Mr. Orr was a pioneer in many articles of manufacture in the Old Colony, particularly of iron. He erected the first trip-hammer known in this part of the country. By his exertions and experiments, sythes and axes were first introduced, and for several years he was the only edge-tool maker in New England.

Powder was an article of much anxiety in regard to its manufacture. We find, even as early as 1639, a record that Edward Rawson, who represented Newbury in the General Court that year, was granted by the colony "500 acres of land at Pecoit, so as he go on with the business of powder, if the saltpeter come." But he did not succeed, as in 1648 he is granted the 500 acres to indemnify him for his losses. "In 1643, the General Court made an order about preparing houses of saltpeter, that there might be powder made in the colony, but as yet it hath not gone on."

In 1775, Gov. Richard Penn, who was in England charged with a petition for redress from the Continental Congress, stated "that the Pennsylvanians perfectly understood the making of gunpowder, and also the manufacture of small arms." Probably the first powder-mill erected in this part of the country was at Andover. It was built by Hon. Samuel Phillips, Jr., in 1779, and some remains of it are still to be seen. The colony supplied him with saltpeter and sulphur, and he was to receive eight pence per pound for manufacturing. The resolve under which the contract was made is dated June 8, 1776, and requires him to give bonds for the faithful performance of the contract; also, he was to cause to be published all the discoveries he might make relative to the construction of the mill and the manufacturing of powder.

During the year 1776 that mill turned out about 80,000 pounds of powder. In 1778, the mill was blown up, and after that time the manufacture was given up, and that of paper substituted by the same gentleman. Subsequently, about 1794, a

smaller powder-mill was erected, which was also blown up or burnt down in 1796. This ended the manufacture in Andover.

Although but little had been done in manufacturing woolen and cotton articles previous to the Revolution, yet each family in the country supplied, in a great measure, their own wants. A woolen factory was erected at Ipswich in 1762, and some blankets made, but it being a losing business, was continued only a few years; and a cotton factory at Beverly exhibited similar results.

THE INVENTOR OF GAS LIGHTS.

The inventor of gas lights was a Frenchman, Philippe Le Bon, an engineer of roads and bridges, who in 1785 adopted the idea of using, for the purpose of illumination, the gases distilled during the combustion of wood. He labored for a long time in the attempt to perfect his crude invention, and it was not until 1799 that he confided his discovery to the Institute. In September, 1800, he took out a patent, and in 1801 he published a memoir containing the result of his researches. Le Bon commenced by distilling wood, in order to obtain from it gas, oil, pitch, and pyroligneous acid, but his work indicated the possibility of obtaining gas by distillation from fatty or oily substances. From 1799 to 1802, Le Bon made numerous experiments. He established at Havre his first thermo-lamps, but the gas which he obtained being a mixture of carburetted hydrogen and oxide of carbon, and but imperfectly freed from its impurities, gave only a feeble light and evolved an insupportable odor, and the result was that but little favor was shown to the new discovery; the inventor eventually died, ruined by his experiments. The English soon put in practice the crude ideas of Le Bon. In 1804 Windsor patented and claimed the credit of inventing the process of lighting by gas; in 1805 several shops in Birmingham were illuminated by gas manufactured by the process of Windsor and Murdock; among those who used this new light, was Watt, the inventor of the steam-engine. In 1816 the first use was made of gas in London, and it was not until 1818 that this invention, really of French origin, was applied in France.

PROGRESS OF PUBLIC WORKS IN INDIA.

Lord Harris, says the *Bombay Times*, is about to visit the Godavery and its magnificent delta, and to inspect the works in course of construction there. These works are intended to provide the delta of the river with sufficient irrigation to protect it from floods, and to provide drainage. Already a weir has been built across the river at the head of the delta, and various regular channels and aqueducts have been constructed. The delta is said to contain 1,200,000 acres of "rich alluvial land, fit for sugar, cotton, hemp, tobacco, oilseeds, rice, cocoa-nuts, plantains, chillies, &c., all of which are now cultivated to a great extent;" so that it is expected these works will be of great use. The works are intended to be very extensive. There will be 2,000 miles of channels of various kinds, most of them navigable; 1,000 bridges and tunnels near the channels; ultimately, 7,000 works of masonry in all. The great aqueduct is 800 yards long, 20 feet broad, and 6 feet deep, and has 49 arches of 40 feet each; and it will convey water to 60,000 acres of ground. This large aqueduct has been already constructed, and in the short space of four months. More than 10,000 men are employed upon these works, and it was calculated some time ago that about seven lacs of rupees, or £70,000, would be required to complete them. The consequence of the completion of a portion of the works is, that the revenue of the district is increasing at the rate of £10,000 a year.

BOOT AND SHOE TRADE OF BOSTON.

The *Mail* furnishes the following summary of the *modus operandi* of the boot and shoe trade of Boston. The statistics of this important branch of industry have been published in former numbers of the *Merchants' Magazine* :—

"In 1845 there were 2,768,160 pairs of boots, and 17,138,152 pairs of shoes manufactured in Massachusetts, with an aggregate value of \$14,798,140, and giving employment to 27,199 males, and 18,678 females. In 1840 the number of males employed, according to the census, was 31,954—more than double the number of cordwainers in any other State except New York, which has but about 24,000. It is probable that at the present time all the figures of 1854 are more than doubled. Besides this, there are a great number of persons in the adjoining States, particularly New Hampshire, who work for Massachusetts manufacturers. At the principal shop the leather is only 'clicked,' or cut out, mostly by the aid of light machinery, into soles, heels, uppers, counters, &c., the linings, counters, and straps are 'skived' and pasted in, and the work is then given out to the workmen, in lots of 12, 20, or 100 pairs, as the case may be, and of different sizes. The shoemaker—the real manufacturer—then takes his work home, where his wife and daughters stitch, close, and bind the uppers, and himself and boys do the 'bottoming.' If his family is large, or he employs a number of hands in a 'team,' a still further division of labor takes place. One hand tacks the sole to the last and trims it; another draws the upper smoothly over the last; a third lays the 'welts' and 'runs,' and puts in the 'shanking' and 'filling;' a fourth tacks on and trims the out-sole; a fifth drives the peg; a sixth puts on and shapes the heel; a seventh pares off and makes the edges; and an eighth workman puts a final polish on the edge with the heel ball and stone. The work is then returned to the manufactory, and the workman immediately receives his cash. The bottoms are then buffed smooth, and after the uppers have received an extra polish, the goods are packed into boxes ready for a market at home, at the West, the South, California, Australia, South America, or any other part of the globe. Our boot and shoe trade has doubled within a few years. We have not at hand the means of making an accurate statement, but have no doubt that in Boston alone, where it nearly all concentrates, this business amounts to from \$30,000,000 to \$40,000,000 annually. The Boston Almanac gives a list of 160 wholesale boot, shoe, and leather dealers, besides those who deal exclusively in leather."

STATISTICS OF AGRICULTURE. &c.

THE TEA CULTURE.

The introduction of the tea-plant into the United States would create quite a revolution among the drinkers of this, to some, exquisite beverage. About six years ago some discussion was had on this subject, since which time we have heard nothing about it. A Mr. Bonsall, of Philadelphia, has been for a long time extensively engaged in the cultivation of the plant in Assam, which is situated in the north-easternmost part of British India, and is watered by the Brahmapootra. It grows there to the height of thirty or forty feet. The trimming to six feet, however, is necessary to be readily gathered. Green and black teas are made from the same tree.

The wood of the tea bush is light-colored and close grained, and it smells, when peeled, like the black currant. The flowers are white and fragrant. The green leaf is bitter, pungent, and unsavory, and its decoction would be anything but palatable. The seed consists of from two to five hazel-like nuts, inclosed in a smooth, broad capsule. The kernel is white, oily, and nauseous.

The tea-plant is remarkably hardy, and it flourishes on the high slopes of the mountains, where frost and snow prevail three months in the year. Its favorite soil in China, and also in Assam, is the poorest yellow sandy loam, with carbonate of iron

in analysis. Silex, 76; clay, 10; carbonate of iron, 10; water, &c., 4—100. No lime.

Cuttings do well for planting. It is grown in nurseries and transplanted, and grows about a foot every year. In the third year they begin to gather the leaves. Hill-side ground should be selected, where the sun shines half the day.

A good tree is expected to yield at three years, $1\frac{1}{2}$ ounces tea, or 187 pounds per acre; at four years, $2\frac{1}{2}$ ounces tea, or 312 pounds per acre; at five years, 3 ounces tea, or 500 pounds per acre; at six years, when it is in full bearing, 6 ounces tea, or 750 pounds per acre. Two thousand trees are allowed to the acre. The trees live to fifty years of age.

Mr. Bonsall describes the method of curing, which is generally familiar to all. He has contrived a machine which dispenses with a great deal of labor, and has substituted metal plates for the hot hearth process; and he thinks it can be procured in this latitude for one shilling the pound. Not your common sort, but the very best, such as the mandarins drink, and which never goes out of China.

There is not a single box of tea, after all the pains taken by the country makers, that is not opened and extensively be-rubbished by the Canton dealers before it is allowed to get into the hands of the Christian barbarians. In our cities it undergoes also a liberal be-Yankeeification before it reaches our tea-rooms; so that what is real tea is the exception, and what is not tea is the rule.

Almost every farmer in China raises his own family tea, and thus escapes the adulteration.

This is indeed a very important subject for consideration among our agriculturists, in every point of view. If it can be done, we get our teas pure and unadulterated, at a very low price. The seed can be easily procured, and of its successful cultivation there can be no doubt.

CINNAMON FIELDS IN CEYLON.

The following beautiful description of the cinnamon fields of "Ceylon's spicy isle," although written many years ago by the celebrated Bishop Heber, is equally correct at this time, as but little change has taken place in the production:—

"One morning was, as usual on our first arrival, taken up by visits. In the afternoon we drove through the far-famed cinnamon gardens, which cover upwards of 17,000 acres of land on the coast, the largest of which are near Colombo. The plant thrives best in a poor, sandy soil, in a damp atmosphere. It grows wild in the woods to the size of an apple-tree; but when cultivated, is never allowed to grow more than ten or twelve feet in height, each plant standing separate. The leaf is something like the laurel in shape, but of a lighter color. When it first shoots out, it is red, and changes gradually to green. It is now out of blossom, but I am told the blossom is white, and spreads when in full blossom to cover the garden. After hearing so much of the spicy gales from this island, I was much disappointed at not being able to discover any scent, at least from the plants. In passing through the gardens, there is a very fragrant smelling flower growing under them, which at first led us into the belief that we smelt the cinnamon, but we were soon undeceived. On pulling off a leaf or twig, you perceived the spicy odor very strongly, but I was surprised to hear that the flower had little or none. As the cinnamon forms the only considerable export of Ceylon, it is of course preserved with care. By the old Dutch law, the penalty for cutting a branch was no less than the loss of a hand; at present, a fine expiates the offense. The neighborhood of Colombo is particularly favorable to its growth, being well sheltered, with a high, equable temperature, and as showers fall frequently, the ground is never parched."

AGRICULTURAL STATISTICS OF THE UNITED KINGDOM.

The following table, which we compile from the Belfast (Ireland) *Mercantile Journal and Statistical Register*, is an estimate of the extent of land in the United Kingdom under the principal description of crops in 1850-54. It exhibits the acres in crop, total produce, produce under deduction of seed, and total value of crops:—

ENGLAND.				
Crop.	Acres in crop.	Total produce. Quarters.	Produce under deduction of seed. Quarters.	Total value.
Wheat.....	3,000,000	11,250,000	9,642,857	£20,696,428 5
Barley.....	1,000,000	5,400,000	4,628,572	6,248,572 4
Oats and Rye.....	2,000,000	9,000,000	7,714,286	7,714,286 0
Beans and peas.....	500,000	1,875,000	1,607,143	2,250,000 4
Potatoes, turnips, rape,	2,500,000	.....	.....	26,000,000 0
Clover.....	1,800,000	.....	.....	.....
Fallow.....	800,000	.....	.....	.....
Hops.....	50,000	.....	.....	780,000 0
Gardens.....	250,000	.....	.....	3,750,000 0
Total.....	11,400,000	27,525,000	23,592,858	£67,439,826 13
SCOTLAND.				
Wheat.....	350,000	1,137,500	947,917	£2,088,021 11
Barley.....	450,000	1,800,000	1,500,000	1,950,000 0
Oats.....	1,200,000	6,000,000	5,000,000	5,000,000 0
Beans and peas.....	50,000	150,000	125,000	175,000 0
Fallow.....	100,000	.....	.....	.....
Potatoes.....	200,000	.....	.....	.....
Turnips.....	450,000	.....	.....	7,700,000 0
Clover.....	450,000	.....	.....	.....
Flax.....	5,000	.....	.....	75,000 0
Gardens.....	85,000	.....	.....	525,000 0
Total.....	3,290,000	9,087,500	7,572,917	£17,463,021 11
IRELAND.				
Wheat.....	400,000	1,200,000	1,000,000	£2,000,000 0
Barley.....	320,000	1,120,000	933,334	1,119,999 12
Oats.....	2,200,000	11,000,000	9,165,667	9,166,667 0
Potatoes.....	1,400,000	.....	.....	11,200,000 9
Fallow.....	300,000	.....	.....	.....
Flax.....	140,000	.....	.....	2,100,000 0
Gardens.....	25,000	.....	.....	300,000 0
Total.....	4,785,000	13,320,000	11,100,001	£25,886,666 12
Grand total.....	19,475,000	49,932,500	42,265,776	£110,788,974 16

1. CONSUMED BY MAN. Wheat, 15,500,000 quarters; oats, rye, and maslin, (a mixture of rye and wheat,) 10,650,000 quarters; barley for malting, food, &c., 6,000,000 quarters; beans and peas as meal, 700,000 quarters; total quarters, 32,850,000.

2. CONSUMED BY THE LOWER ANIMALS. Corn, principally oats, used in the feeding of horses and other animals, in distillation, manufactories, &c., 16,320,000 quarters; total consumed by man and the lower animals, &c., 49,200,000 quarters.

It is seen from the former estimate that the corn produced in the United Kingdom, applicable to consumption, amounts to only 42,265,770 quarters. But to this has to be added foreign corn annually entered for consumption at an average of the seven years ending with 1852, viz:—wheat and wheat flour, 4,231,185 quarters; barley, 870,786 quarters; oats and oat-meal, 1,162,546 quarters; rye, 99,510 quarters; peas and beans, 565,759 quarters; total quarters, 6,929,786; total consumption, 49,196,556 quarters.

CORN STATISTICS IN FRANCE.

The *Siecle* says:—According to the latest statistical returns, the crop of every kind of corn in an average year in France now amounts to about 180,000,000 hectolitres. In wheat, our country produces 60,000,000 hectolitres; rye, 26,000,000; barley, 19,000,000; metiel, (a mixture of wheat and rye,) 1,600,000; oats, 40,000,000; buckwheat, 8,000,000; maize and millet, 7,000,000; small grain, pulse, &c., 2,500,000. The crop of wheat is therefore in the proportion of 60 to 180; that of oats, 50 to 180; and that of rye, 23 to 180; that is to say, these three descriptions of corn compared with all the others, are in the proportion of 103 to 77 only. This quantity of 180,000,000 hectolitres of corn is not all consumed; deducting 25,700,600 for seed, there remains 154,300,000 for the general consumption. As, however, oats, the net production of which is 39,250,000 hectolitres, cannot be reckoned as human food, we find that the quantity remaining for the food of the people is 115,050,000 hectolitres. If we now take the different crops by weight, which is the best manner of estimating the nutritive value of each, it may be said that the average of wheat is 75 kilogrammes per hectolitre; that of rye, 65 kilogrammes; barley, 60 kilogrammes; metiel, 70 kilogrammes; buckwheat, 60 kilogrammes; maize, 78 kilogrammes; and dry pulse, 80 kilogrammes. It follows, therefore, from these bases, that with 51,500,000 hectolitres of wheat, weighing 3,000,000,000 kilogrammes, and other quantities of corn in proportion, we have a total weight of 8,046,800,000 kilogrammes of corn fit for consumption of man. It has been calculated that on an average, including women, children, and old people, it requires 220 kilogrammes of corn per year for the food of one person. This would, therefore, be for France, where the population is reckoned at 36,000,000, a total of 7,920,000,000 kilogrammes. If, therefore, from 8,046,800,000 kilogrammes calculated, as above stated, for human consumption, there be deducted the 7,920,000,000, which suffice for the consumption of France, the following result, which must be satisfactory to every one, is come to; namely, that France, in an average year, has a crop of 127,000,000 kilogrammes of corn beyond the wants of the people, and that she could feed 600,000 inhabitants more than the present number of her population.

THE GUANO TRADE OF PHILADELPHIA.

The consumption of guano in the United States, although but recently introduced as an article of Commerce, has already become quite large. The *Philadelphia Commercial List* is informed by Mr. SAMUEL J. CHRISTIAN, the agent of the Peruvian government for this market, that he has received in Philadelphia and sold, since the commencement of the trade, 31,724 tons, which, at \$45 per ton, makes the aggregate of one million four hundred and twenty-seven thousand five hundred and eighty dollars. Besides this, there has been a large quantity of Mexican, North Pacific, and Columbian guano consumed, which will increase the amount paid for the article to upwards of two millions of dollars.

When the first cargo of guano was introduced into this country, it met with the same prejudices anthracite coal had to contend with. No one knew anything in regard to its intrinsic value, and consequently every person set it down as a humbug. The farmer that purchased the first lot, and had the courage to use it, distributed it upon several acres of grass in such quantities as entirely to kill the crop. He immediately waited upon the unfortunate seller, and threatened to prosecute him for obtaining money under false pretences. The enterprising importer, however, convinced of the real merit of the article, and its importance to the agriculturist, was persevering in his efforts to introduce it into general use; and by the figures above given, it will be seen that he has been eminently successful in his undertaking.

THE IMPERIAL RICE OF CHINA.

Huc, in his "Sequel to the Chinese Empire," says the Chinese owe their numerous discoveries in agriculture principally to their eminently observant character, which has enabled them to turn to use an immense number of plants neglected in Europe. They are very fond of the study of nature, and their greatest men, and even their emperors do not disdain to attend to the smallest circumstances connected with it, and to collect with care whatever promises to be of public utility. The celebrated Emperor Khang-hi has thus rendered an important service to his country. We find in the curious memoirs written by that prince the following passage:—"I was walking," says the Emperor Khang-hi, "on the first day of the sixth moon, in some fields where rice was sown, which was not expected to yield its harvest till the ninth, I happened to notice a rice plant that had already come into ear; it rose above all the rest, and was already ripe. I had it gathered and brought to me; the grain was very fine and full, and I was induced to keep it for an experiment, and see whether it would on the following year retain this precocity; and in fact it did. All the plants that proceeded from it came into ear before the ordinary time, and yielded their harvest in the sixth moon. Every year has multiplied the produce of the preceding, and now for thirty years it has been the rice served on my table. The grain is long, and of a rather reddish color, but of a sweet perfume, and very pleasant flavor. It has been named *ya mi*, or 'Imperial rice,' because it was in my gardens that it was first cultivated. It is the only kind that can ripen north of the Great Wall, where the cold begins very early and ends very late; but in the provinces of the South, where the climate is milder, and the soil more fertile, it is easy to obtain two harvests a year from it, and it is a sweet consolation to me to have procured this advantage for my people."

The Emperor Khang-hi did render in fact an immense service to the populations of Manchuria, by encouraging the culture of this new kind of rice, which succeeds admirably in dry countries, and has no need, like the common rice, of perpetual irrigation. It would certainly prosper in France, and it is not the fault of the missionaries if it has not long since been acclimated there.

 THE CULTIVATION OF THE STRAWBERRY.

If the saying is true that "the man who can make two spears of grass grow where only one grew before," is a public benefactor, it must be conceded that Mr. Hovey, the producer of the strawberry known as "Hovey's Seedlings," is richly entitled to that appellation. To give a few statistics on the cultivation of the strawberry, we copy the following from the August number of the *Horticulturist*, from an article written by William Stoms, of Cincinnati. Speaking of the crop of John C. Youtcy, of Campbell county, Kentucky, eight miles from Cincinnati, Mr. Stoms says:—

"He has raised and sold about one-tenth of all the strawberries vended in our markets the past season. His varieties, &c., being the three following: Two acres of Washingtons, which produced sixty bushels, and sold for four hundred and twenty dollars; five acres of Hovey's Seedlings, which produced one hundred and seventy-eight bushels, and sold for twelve hundred and sixty dollars; three acres of Hudson, which produced one hundred and two bushels, and sold for five hundred and thirty dollars. Gross receipts from ten acres, two thousand two hundred and ten dollars. The expense of picking, including the boarding of hands, was two hundred and twenty-five dollars. Expense of marketing, seventy-five dollars. The probable cost of cultivation per annum is fifteen dollars per acre. Mr. Youtcy cultivates all his strawberries on new, but very hilly ground. In each variety, he has the past season

excelled and defied competition. In Hovey's Seedlings, permit me to assure you, without the fear of contradiction, that he never was beat in this country—twice taking the first premiums at our horticultural exhibitions, against amateurs, market gardeners, and everything else."

THE PLANTAIN TREE.

A correspondent of the United States Commissioner of Patents, writing from New Orleans, gives some interesting information in regard to the cultivation of the much-prized plantain tree. The quantity of the fruit of that tree imported into New York is annually very considerable. We make the following extract from the letter referred to above:—

"The plantain tree (*musa sapientium*) is superior to the potato or wheat as a staple article of food. This is proved by eminent English chemists who have analyzed it. It is easy of cultivation—one hand attending to one hundred acres—and is of continuous or spontaneous growth after the first year. In its green state it is used for food; when ripe, for fruit, and makes an acid and cheap vinegar, an intoxicating drink, and flour or gruel. The green leaves are used for fodder, and the dry ones for bedding in all the public hospitals, being cheap and healthy. The tree itself, after yielding its fruit, is cut down, and is now manufactured into writing paper in England. An indelible ink is also produced from the shells of the green plantain. I believe no known plant contributes so much to the wants of man.

"It is cultivated in gardens in Louisiana, but its great value to man and beast is neither known nor appreciated. Any number of plants could be procured from British Guiana at 2½ cents each."

IMPROVEMENT IN THE LIVE STOCK OF OHIO.

A correspondent of the Louisville *Courier*, who has been traversing Ohio, gives a very interesting account of the progress made in that State in the improvement of live stock, especially the breeds of cattle. Some parts of the State, such as the counties of Pickaway, Madison, Highland, Licking, &c., have long been celebrated in this respect; but it is within a comparatively few years only that all sections have gone to work industriously and energetically to improve the breeds of their cattle and establish herds of commanding reputation. The writer attributes this result in a great measure, if not chiefly, to legislation favoring the establishment of agricultural societies in all the counties. Men of landed estates and pecuniary resources are at the present time embarking energetically in the business of cattle raising, and farmers generally throughout the State are catching the infection from them.

HISTORY OF AN ACRE OF LAND.

In the early days of South Australia, the land put up for sale was sold at 12s. the acre; and by the then rules the purchaser of a town acre was entitled to an acre in some suburban allotment. One of the purchasers of such a brace of acres held his land for a year or two, when he sold it for £400. At the end of a few years this purchaser sold his country section for £500, and within a few years more the town acre for £2,000. This last was re-sold, after a lapse of three or four years, for £8,000. Not long since three-fourths of this acre were disposed of for £18,000, and the remaining one-fourth is now about to change hands at the rate of £32,000 the acre. This land, though in the best situation in Adelaide, has not yet been built on.

MERCANTILE MISCELLANIES.

PHILOSOPHY OF ADVERTISING.

A merchant must not be satisfied with advertising, says the *Philadelphia Merchant*, but must be wise in choosing the mediums for his advertisements. Some people use only the papers connected with their own political party, which is wise only on the supposition that they want the patronage of no others but those with whom they agree in politics. They will agree, sometimes, to help a political press, by giving to it *all* their advertising, when it would be better to give a donation and secure the privilege of advertising elsewhere. Some go for an "independent" or a "neutral" journal, and forget that all the customers they wish do not belong to the independents or the neutrals, and while they are gratifying a passion for reform, or an indifference to parties, they are doing violence to the best interests of business. Others imagine that a "daily" is the only fit medium for advertising, when in many instances that is the poorest avenue to the public, as after telegraphic news is devoured and the local items looked over, and part of the leading editorial is read, the paper is thrown aside to be looked at no more; while a "weekly" paper is taken home to be looked over leisurely, and the world of trade comes more fully before the reader as exhibited in the advertisements. The "weekly" is read by more persons—is more preserved—is more sent away to friends as best exhibiting what the city is, and begets a wider interest in behalf of city trade than the "daily." Many persons are betrayed by the greatness of the circulation of some papers, whereas a paper whose circulation is only fifteen or twenty thousand, is sometimes more valuable as an advertising medium than one that can boast of its forty or fifty thousand; because the former may go among more readers, and the right kind of readers, than the latter. Fifty thousand papers circulated among the lower classes is worth less to the advertiser than five thousand which go among the middle and upper classes; and the fact of advertising being offered at "very cheap" rates is enough to settle the case with the knowing ones that the paper is a poor medium. And then, too, if a man wants the trade of a vast region, he must not be contented with advertising in small country papers, but must seek out the paper which is most diffusive in its circulation, embracing many States in its extension, and commanding the notice of the merchants, traders, manufacturers, and chief artisans in all departments of business life. To advertise is a settled principle of successful business.

EMERSON ON TRADE.

RALPH WALDO EMERSON says: "We rail at Trade, and the philosopher and lover of man will have much harm to say of it; but the historian of the world will see that Trade was the principle of Liberty; that Trade planted America and destroyed Feudalism; that it makes peace, and it keeps peace, and it will abolish slavery. We complain of the grievous oppression of the poor, and of its building up a new aristocracy on the ruins of the aristocracy it destroyed. But there is this immense difference, that the aristocracy of trade has no permanence, is not entailed, was the result of toil and talent, the result of merit of some kind, and is continually falling, like the waves of the sea, before new claims of the same sort. Trade is an instrument in the hands of that friendly Power which works for us in our despite. We design it thus and thus; but it turns out otherwise and far better. This beneficent tendency, omnipotent without violence, exists and works."

LADIES AS CLERKS.

The employment of ladies as clerks in stores, especially in retail dry goods stores, is becoming very general throughout the country. The *New York Times* has recently published several articles upon this subject, and from the *Pittsburg Post* we extract the following remarks:—

"The *New York Times* is earnestly advocating the employment of females as clerks in stores—particularly in all retail dry goods stores. It is an employment for which they are well fitted, and would properly enlarge their sphere of action and occupation. And it is a business that they can do better than men. They are more active and expert at handling dry goods, more tasteful in folding and arranging them, more polite and conciliatory to customers, and have better judgment in all matters of taste in relation to dress. On the other hand, young men should be employed in more active and manly labor. Measuring off calicos and tape is too light a task for their physical strength, and is usurping a place and occupation that properly belongs to women.

"We are decidedly in favor of this branch of women's rights being conceded to them. It would give employment at good wages to a great many young ladies, and would be degrading to no one willing to earn a living. If the ladies generally prefer those stores where females are employed to sell goods, a change would soon be effected, and women employed in all the stores.

"The employments of females are becoming more numerous and remunerative every year, and it is right that it should be so. In the New England States and in New York nearly all the public schools are taught by ladies both in summer and winter. This enlargement of the sphere of woman's activity and usefulness is a matter of public economy. It gives them work that they can do as well as men, and it diverts the labor of men into other channels, and to more athletic and useful employments. In this active age and country there is no difficulty in men finding useful and lucrative employment—work, too, better suited to their physical natures than measuring off tape and calico."

NEW MERCANTILE MOVEMENT IN BOSTON.

The *Boston Post* gives some interesting facts in relation to what it calls a "new commercial movement,"—the attempted combination of consumers to defeat the speculators. The *Post* speaks in commendation of the plan which has been so ably urged by Mr. A. B. Keith, of that city, and adds:—

"He has as yet failed of forming a combination for the proposed purpose, but he has succeeded in awakening the attention of philanthropic capitalists thereto, and a gratifying end has been gained, as the money has been furnished, and a store is to be immediately opened in Boston where flour per single barrel can be bought at the western price for a thousand barrels, with the addition of 5 per cent only for incidental expenses. The plan is to send an agent out West, with the money in his hand, to buy the flour and ship it to the East, the expense attending which, the freight to Boston, cartage, and storage, will be fully covered by the 5 per cent above named. Profit is out of the question. It is a beneficial movement, and not a speculative, and the profit that would, under the old system, accrue to the speculator, goes into benefit for the purchaser. This would peculiarly be the result of combination, it is held, and it is also held that it needs but to commence to be successful.

"The store to be opened on Monday next will test the feasibility of the project, and we are promised, for \$10, flour that cannot be bought in our stores for less than \$11 25. Like the inch on the man's nose, the extra \$1 25 saved here to a poor man is considerable. Potatoes are likewise to be bought in the State of New York, and after paying 15 cents per bushel for freight, will be sold at the new store for thirty cents per bushel less than they are bought for in our market. The same principle, of course, will apply to other articles of consumption, and western pork, now bringing fourteen cents per pound at retail, may be bought at some easier rate, and so with all articles of western produce.

"A barter system of traffic, on an equitable basis, is thought of, likewise, by which the productions and imports of the East may be exchanged at cost with those of the West, with the mere added expense of transshipment and other incidentals. The Western people are laboring under the same general evils. For the luxury of poor

tea they have to pay about seventy-five cents per pound, and for spices and other articles proportionably high.

"That the plan is a feasible one there can be, we think, no doubt, as the ready money of the combiners—generally poor people, who are eminently, from necessity, ready-money men—can compete with the long credits of the flour speculator with the Western millers, and buy flour at the lowest rates for cash."

SPURIOUS INDIGO IN MARKET.

A correspondent of the *Baltimore American* says that much spurious indigo has of late found its way into our commercial cities; the writer has thought a line or so in reference thereto may not prove altogether unacceptable to a portion of our readers. It is not his purpose, however, to attempt a disquisition giving the manner or process of the manufacture of indigo, either genuine or spurious, but would add what many know, that the former is of vegetable production, and though the plant from which it is made may thrive in latitudes a few degrees either north or south of the tropical boundaries, yet it certainly does not grow in latitude $40\frac{1}{2}^{\circ}$ north, longitude 3° east from Washington; and any indigo manufactured in such latitude and longitude, however fine in texture or appearance, may justly be looked upon with a suspicious eye, whether it be *repacked* in ceroons, chests, or cases. It is hardly necessary to remind those who deal in indigo of a test so generally known and practiced, and which at the same time (so far as the knowledge of the writer extends) may safely be relied upon as a test of *genuineness*; that is, when its surface is rubbed with the finger-nail or any hard substance, a genuine article will show a *coppery* or bronze color, varying in brightness according to quality of the article; the spurious article is devoid of this. It also has been noticed that the latter, when fresh broken and applied to the tongue, is quite adhesive, though this property may belong to some indigo, if so it is but slight; and if to a tumbler of water, having dissolved in it a small lump of such spurious article as referred to, there be added a little caustic potash, the color disappears, and a brown color with substance is precipitated; besides these, chemists have several tests whereby they can detect an article with a *metallic* basis.

Indigo is an important article of trade, and Baltimore has not suffered in reputation as some other markets, by engaging in the manufacture of and selling a spurious article of such value; and as this spurious article closely resembles in appearance a genuine article of fine quality, I have thought it proper to request that these tests may be brought to the remembrance of such of the Western and Southern merchants as look to the Eastern markets for supplies.

THE RIVERS OF MAINE THE SOURCE OF HER WEALTH.

The greatest and most permanent wealth of Maine consists in her rivers. No other State in the Union has such magnificent water-power. Look at the Kennebec and the Penobscot—sweeping majestically with their valuable freights to and from the sea, fertilizing their banks, and supporting thousands of towns and villages on either hand. Look at the Androscoggin. Are not these better than mines of copper and gold? The Penobscot and Kennebec are navigable for vessels of considerable burden a long way from the sea, and many towns and people upon their banks obtain a living, in some cases great wealth, by ship-building. Thus, the trade of the ocean is of direct profit to the population of the interior—a rare thing—and many families in the heart of the country, as it were, enjoy advantages which, in most of the States, can be had only on the coast. This is a superiority which Maine will always possess, and which railroads, though they may do something to offset, can never overcome. They enable the poor economical people of the interior to go, almost literally, "down east on a

shingle," as the saying is. But indispensable as they have been heretofore to the people of Maine for bringing down their logs, propelling their saw-mills, and bearing their lumber to a market, their whole power of usefulness does not begin to be appreciated and we have little or no idea of its immensity. We see no reason why, with a judicious use of her timber, and proper care to raise young forests on the ruins of those which from year to year are cut down, Maine cannot always remain a great producer of lumber. If she does so, her rivers will be of as much service for the transportation of this description of wealth as railroads and canals; it would be much cheaper, and the cost of keeping in repair is nothing.

COPY OF AN OLD BILL OF LADING.

We cut from one of our exchanges the copy of a "Bill of Lading," dated Philadelphia, 24th September, 1741, more than one hundred and thirteen years ago. It is a singular paper, and some of its phrases will, doubtless, cause the reader to smile. The following is a copy, as nearly as we can give it, in print:—

SHIPED by the Grace of GOD, in good Order and well Conditioned, by.....
in and upon the good.....called, The
Whereof is Mafter under GOD for
 this present Voyage.....and now Riding
 at Anchor in the.....and by GOD's
 Grace bound for.....To say,

 Being Marked and Numbered as in the Margent, and are to be delivered in the like
 good Order and well Conditioned, at the aforefaid Port of.....
(the Danger of the Seas only excepted)
 unto.....
 or to.....Assigns, he or they paying Freight for
 the faid Goods.....
 with Primage and Average accustomed. In Witnefs whereof the Mafter or Purfer of
 the faidhath affirmed to.....Bills of Lading, all
 of this Tenor and Date, One of which.....Bills being
 Accomplished, the other.....to stand Void.—
 And fo GOD fend the good.....to her desired
 Port in Safety, AMEN. Dated in.....

A BOTTLE OF CHAMPAGNE.

A late number of *Household Words* contains a lengthy but interesting article upon Champagne wine, in which a description is given of the country where it is produced. The writer says:—Champagne is not fit to be thus delivered up before the May of the second year; so that a bottle of frothy wine cannot be drunk till from eighteen to twenty months after it has vintaged, at the very soonest. It is better even at the thirtieth month after it has quitted the parent vine. This, with trouble, the loss, and the cellar-rent, make it impossible that genuine, properly-prepared Champagne should be otherwise than costly. The maker, merely to pay his outlay, must dispose of it at a heavy price. Champagne, therefore, is the wine of the wealthy. At a second-rate inn in Epernay, the Siren, which is not without his own particular fascinations, I paid four francs for a bottle of Ai. Wine merchants on the spot cannot let you have passable Sillery for less than two francs and a half per bottle. But let not those who cannot afford to drink Champagne envy too bitterly those who can. The loss is by no means so great as they fancy. "Which shall we have, Champagne or Bordeaux?" said I to a Frenchman whom I wanted to reward for talking, as well as to set him talking a little more. "Champagne is the more noble," he answered, after deep consideration, "but it is five francs the bottle. The Bordeaux here is good, and costs

only thirty sous. One bottle of Bordeaux will fortify our stomachs better than two bottles of Champagne; and for one bottle of Champagne he can have three of Bordeaux, with ten sous to spare for something else. Let us drink Bordeaux, Monsieur, if you please." And Bordeaux we did drink.

RECOMMENDATION OF A CABIN-BOY.

"Please, sir, don't you want a cabin-boy?"

"I do want a cabin-boy, my lad, but what's that to you? A little chap like you ain't fit for the berth."

"Oh! sir, I'm real strong. I can do a great deal of work, if I ain't so very old."

"But what are you here for? You don't look like a city boy. Run away from home, hey?"

"Oh! no, indeed, sir; my father died, and my mother is very poor, and I want to do something to help her. She let me come."

"Well, sonny, where are your letters of recommendation? Can't take any boy without those."

Here was a damper. Willie had never thought of its being necessary to have letters from his minister, or his teacher, or from some proper person to prove to strangers that he was an honest and good boy. Now, what *should* he do. He stood in deep thought, the captain meanwhile curiously watching the workings of his expressive face. At length he put his hand into his bosom and drew out his little Bible, and without one word put it into the captain's hand. The captain opened to the blank-page and read:—

"Willie Graham, presented as a reward for regular and punctual attendance at Sabbath School, and for his blameless conduct there and elsewhere. From his Sunday School Teacher."

Captain McLeod was not a pious man, but he could not consider the case before him with a heart unmoved. The little fatherless child, standing humbly before him, referring him to the testimony of his Sunday School teacher, as it was given in his little Bible, touched a tender spot in the breast of the noble seaman, and clapping Willie heartily on the shoulder, he said:—"You are the boy for me; you shall sail with me; and, if you are as good a lad as I think you are, your pockets shan't be empty when you go back to your good mother."

PARSIMONY AND ECONOMY IN TRADE.

One might suppose, says our cotemporary of the Philadelphia *Merchant*, that it would require but a few words to make this appear to the apprehension of the reader. To some, the bare announcement is sufficient to indicate the difference, but to others the clearest reasoning will not avail. This may be owing to the fact that they have been accustomed to confound the one with the other in all the affairs of life—in the family and in business, in pleasure and in profit.

A person of this stamp wishes to go into business; he has some little capital, but not much experience. He chooses the profession of a grocer or a merchant, and, supposing that parsimony is economy, in order to save rent, he commences business in the outskirts of the city, or in some obscure alley or unfrequented street, and fails to succeed, and wonders why it is, with all his industry and economy, he cannot make both ends meet, much less thrive! His parsimony is the chief cause of his failure. But you can't convince him of it, and he will live and die in the little nest which his own hands created, and grieve to think that fortune has not been more gracious in the bestowment of her favors upon him.

Another person opens an establishment on Chestnut-street; he has but recently come to the city, having been a successful merchant in one of the towns in the interior of the State, where he was known by every one, as he was born and raised in the county. Neither he, nor his father before him, had ever availed themselves of the facilities of advertising in the county papers, and yet they got along, and in process of time amassed what in that region was considered to be quite a fortune. He now opens a fine stock of goods in a commodious house on Chestnut-street, and thinks that everybody knows him, and of course will trade with him. Was he not known in Buncombe? Did he not come from Lancaster? He has fallen into the delusion that, because he was known in the town and county that gave him birth, that certainly he must be known here.

On the score of economy, as he deems it, he refuses to advertise. It costs too much, he never did it before, why do it now? He has a good house, he has good stock, he has competent clerks; he himself is a pleasant and accommodating merchant—why does he not succeed? Nobody knows him or cares to know him. The competition in the market does not permit Mr. Fogy to become a necessity. Chestnut-street can do without him, and the city would not miss him any more than she would a fly, if he was to move to parts unknown. Now, what does economy of rent require? What of clerk's hire? What of interest on capital? What of time? They all require that he should invest something in advertising, and that, too, on a liberal scale. Not in one paper only, but in many; not occasionally, but constantly. And he will soon find the benefit of so doing. Parsimony may say no—it will be too expensive; you can't stand it. But Economy replies, You are mistaken; I must advertise to be known, to be felt, to be appreciated. If I feel interested in my own success, my neighbors will sympathize with me, and if they see me helping myself, they will cheerfully and promptly come to my aid.

Take the following illustration of the difference between parsimony and economy. Sir Walter Scott tells of a near kinsman, who, having been informed that a family vault of his was decaying and like to fall in, and that ten pounds would make the repairs, proffered only five pounds. It would not do. Two years after he proffered the full sum. He was assured that twenty pounds would scarce serve. He hesitated, hemmed and hawed for three years more, then offered twenty pounds. The wind and rain had not waited for his decision, and not less than fifty pounds would now suffice. A year afterwards he sent a check for fifty pounds, which was returned by post, with the intelligence that the aisle had fallen the preceding week. The reader will make the application.

MEASURES OF DIFFERENT COUNTRIES.

The Newburyport *Herald*, in the course of an article on Weights and Measures, remarks that no two nations have the same—though the same name to designate them may be used in many countries. Take the mile measure, for instance: In England and the United States, a mile means 1,760 yards; in the Netherlands, it is 1,093 yards; while in Germany, it is 10,120 yards, or nearly six English miles; in France, it is 3,025 yards. The Scotch mile is 1,984 yards, and the Irish 2,038 yards. The Spanish mile is 2,472 yards, and the Swedish mile 11,700 yards. These are computed in English yards; but the yard itself, of three feet in length, has diverse significations in different places. The English yard is 36 inches; the French, 39.13 inches; the Geneva yard, 57.60; the Austrian, 37.35; the Spanish yard, 33.04; the Prussian, 36.57; the Russian, 39.51. For measures of capacity, the dissimilarity is wider, and more perplexing.

THE BOOK TRADE.

- 1.—*The British Poets*. 18mo. Boston: Little, Brown & Co. New York: James S. Dickerson.

We are gratified to learn that the success of the publishers in the enterprise of furnishing our countrymen with a complete collection of the British poets, from Chaucer down to the present century, has been eminently successful. The taste for works of art, science, and genius in this country is gradually but surely advancing. The evidence is in the greatly increased demand for works of standard and sterling value. Twenty years ago, an edition of 1,000 copies of the most popular work was considered large; now, editions of that number of copies are sold in a day or week, and ten times that number scarcely begins to reach the demand. The taste, too, is improving, and the yellow-cover literature giving way for something more substantial. The edition of the Poetical Works of Edmund Spenser, in continuation of Little, Brown & Co.'s *British Poets*, now before us in five handsome volumes, would, within our own memory, have been regarded as a hazardous undertaking. These volumes were intended to be little more than a reprint of an edition of Spenser published in 1839, under the superintendence of Mr. George S. Hillard. But the necessity of reducing the annotations to a more compact form, and the hope of making some improvements, led to alterations, and these becoming more extensive as the work progressed, under the editorial supervision of that accomplished American scholar, Mr. Francis J. Child, of Harvard University, constitute it in reality a new edition, and beyond all question, the most complete that has yet been issued from the press, either in the United Kingdom or the United States. Mr. Child has wisely retained a very large portion of Mr. Hillard's carefully prepared notes; and he has, moreover, used old copies of nearly all the poems, and made a scrupulous revision of the text, which, though originally printed with ordinary care, and on the whole faithfully reproduced by Todd, required correction. The life of the poet, prefixed to the first volume of this edition, is undoubtedly more complete and more correct than any former biography.

- 2.—*Curtis's Decisions of the Supreme Court of the United States*. Vols. 1 to 9 inclusive. To be completed in 20 volumes. Boston: Little, Brown & Co.

There are about thirty thousand lawyers in the United States. A great many of them will doubtless be glad to know that the United States Supreme Court Reports no longer are to cost from \$200 to \$250, as heretofore. This edition contains all the decisions of the Court down to December last. The reports are compressed by condensing the statements of facts and omitting long arguments of counsel, which it has been the courteous custom of the reporters to print in full. No decisions, however, seem to be omitted, nor are the opinions of the Court abridged. The compression reduces the bulk of the series from fifty-seven to twenty volumes, and the cost to subscribers to \$8 a volume. The seventeenth volume of Howard's Reports, just issued by the same publishers, takes up the decisions of the Court at the point where this series ends.

- 3.—*The Law of Real Estate in the State of New York*. By T. M. LALOR. 1 vol., pp. 337. J. J. Diossy.

This book will form a very convenient assistant to all those who are concerned to know our laws upon this subject. It consists of the statutes relating to real property—descent, proof, and record of conveyances, and wills, excepted—illustrated by all the reported decisions in the courts of our State. The system of our law in respect of this branch is so much followed in other States, particularly some of the Western States, that the usefulness of this digest will not be limited to New York alone.

- 4.—*Elements of International Law*. By HENRY WHEATON, LL. D. Sixth Edition. Boston: Little, Brown & Co.

This well-known treatise is here presented in an enlarged form, and brought up to the most recent date. The histories of the various questions, particularly those of commercial interest, which arise out of international relations and are complicated by wars and treaties, are here fully traced; and, upon the whole, we know of no treatise so convenient and so satisfactory as a hand-book of international law in 1855, as this is.

- 5.—*Memoir of Rev. Edward Mott Woolley.* By his daughter, Mrs. FIDELIA WOOLLEY GILLET, assisted by Rev. A. B. GROSH. With an Appendix, containing selections from his Sermons. 12mo., pp. 360. Boston: Abel Tompkins.

The biographies of great and good men—men who have left their "footprints on the sands of time"—will ever be read with interest by all who would profit by their example. The subject of this memoir was a devoted minister of that form of Christian faith denominated Universalism. The distinguishing article of the creed of the sect, and that from which it derives its name, is the final purification, salvation, and happiness of the whole human race. Mrs. Gillet, in this memoir, has paid a fitting tribute to the memory of her father, and without professing to give a perfect expression to her conception of his nature, she has sketched the history of his life with much apparent fidelity; but, as far as possible, she has allowed her father to tell his own story, and draws her illustrations of his character from incidents and letters recorded by himself. Free from the trammels of sectarianism, we can find much in the lives of all true men, of whatever name or faith, worthy of "all acceptance."

- 6.—*The Christian Life, Social and Industrial.* By PETER BAYNE, M. A. 12mo., pp. 528. Boston: Gould & Lincoln.

The original design of the author of this work was to give a statement of the Christian view of the individual character, together with a fair representation of the practical embodiment and working of that character in this age. With this idea others became gradually allied, and it seemed to the author that the position and worth of Christianity should, as a social and reforming agency, be defined. The biographic illustrations of the writer's subject are somewhat after the manner of Carlyle, whom he views as the greatest biographic writer that ever lived. The highest success at which he aims, in a literary point of view, is the introduction into Christian life certain of Carlyle's methods. Dissenting from his opinions thoroughly and totally, he at the same time acknowledges "that the influence exerted by Carlyle upon his style and modes of thought is as powerful as his mind was capable of receiving."

- 7.—*The Adventures of Hajji Baba in Turkey, Persia, and Russia.* Edited by JAMES MORIER. 12mo., pp. 405. Philadelphia: Lippencott, Grambo & Co.

The birth, adventures, and various fortunes of Hajji Baba, including his travels in his own country, Persia, and Russia, are all described in a manner to interest the general reader. Most of the incidents in this book appear to be grounded upon fact, which, although not adhered to with the same regard for truth which we might expect from the European or American writer of character, are sufficient to give an insight into the manners and customs of the East. Many of them will no doubt appear improbable to those who have never visited the scenes upon which they were acted, and it is natural that it should be so, because, from the nature of the circumstances, such events could only occur in eastern countries. We anticipate much pleasure from a more thorough perusal of the volume than we have yet been able to give it.

- 8.—*The Christ of History; an Argument grounded in the Facts of His Life and Death.* By JOHN YOUNG, M. A. 12mo., pp. 260. New York: Robert Carter & Brothers.

The London *Morning Advertiser* regards this work as belonging to the highest class of the productions of modern disciplined genius. The author appeals in his introduction to those who are prepared to treat with dispassionate criticism one of the gravest subjects of human inquiry. His argument in its idea, certainly in its construction, differs materially from those by which the truth it would establish has usually been supported. The writer possesses more than ordinary power of analysis, and more originality of argument, than is usually brought to the discussion of topics connected with theology. The work is written in a perspicuous and vigorous style.

- 9.—*The Martyrs, Heroes, and Bards of the Scottish Covenant.* By GEORGE GILFILLAN. 18mo., pp. 264. Robert Carter & Brothers.

Mr. Gilfillan's delineations of literary and scientific men generally evince considerable powers of analysis, and are written in a lively and pleasant style. This work is very much in the same vein, presenting, however, a succinct and apparently impartial history of the Scottish Covenant, as well as an unbiased estimate of the character of its principal actors. He also draws some general deductions applicable to the great questions of the day.

- 10.—*The Rose of Sharon: a Religious Souvenir for 1856.* Edited by Mrs. C. M. SAWYER. 18mo., pp. 304. Boston: Abel Tompkins.

This literary rose has long been a cherished favorite of ours. We have marked its growth for the last seventeen or eighteen years. It made its first annual appearance in 1837, if we mistake not; and we have in our library some sixteen volumes—all but two of the series. One of its editors, and a charming writer, has passed away; but the Rose still blooms under the fostering culture of another fair countrywoman and our worthy and esteemed friend the original publisher, now in the full vigor of a fresh manhood. The many and steady friends of the Rose of Sharon, we can assure Mr. Tompkins, "recognize no tokens of decay in the present bloom." They will find it, like its predecessors, worthy of their notice and approbation. It is illustrated with some pretty and appropriate engravings on steel, and with articles in prose and verse, of varied length and merit, from some of the earliest contributors to its pages, and some of the best names in our American literature.

- 11.—*The Japan Expedition. Japan and Around the World: an Account of Three Visits to the Japanese Empire.* With Sketches of Madeira, St. Helena, Cape of Good Hope, Mauritius, Ceylon, Singapore, China, and Loo Choo. By J. W. SPAULDING, of the United States Steam Frigate Mississippi, Flag Ship of the Expedition. With Eight Illustrations. 12mo., pp. 377. New York: J. S. Redfield & Co.

Although written in a modest and unassuming manner, this book possesses a freshness quite attractive. Mr. Spaulding does not profess to give a history of Japan, of which there are already a number extant, one by Hildreth, the historian, published a few months since. He has, however, embodied his own observations of what came under notice in a cruise of nearly two-and-a-half years. The writer makes no pretension to entire accuracy, having kept no journal and having had to depend on scattered memoranda, jottings down to friends, and to memory. He has told the plain, unvarnished story of his travels, as his eyes told it to him; and for this reason, if for no other, it will be read with interest.

- 12.—*A Presbyterian Clergyman Looking for the Church.* By One of Three Hundred. 12mo., pp. 580. New York: Pudney & Russell.

The writer of this book was born and nurtured in the lessons of Presbyterianism, and, as he informs us, "came in due time to see the errors of that system, and to look earnestly for the Church built upon the foundation of the Apostles and Prophets, Jesus Christ being the corner-stone." After an elaborate search, he finds what he considers the "Church," that is, he becomes a member of the Protestant Episcopal Church. Those who, like the writer of this work, are looking for some other Church than that in which they have been educated, will no doubt be interested in the labors of "a Presbyterian Clergyman Looking for the Church."

- 13.—*Clouds and Sunshine, and Art.* A Dramatic Tale. By CHARLES READ, author of "Peg Woffington" and "Christie Johnston." 12mo., pp. 228. Boston: Ticknor & Fields.

The two classically beautiful tales contained in this volume bear the impress of a pure and elevated mind, and are written in an elegant and attractive style. The names of the American publishers of this reprint have become synonymous with all that is elegant, refined, and pure in the literature of England and America. Their publications, whether selected from the productions of the English or American mind, are not only unexceptionable in tone, but such as command the admiration of all who know how to appreciate the genuine and the durable in literature and art.

- 14.—*My Father's House; or the Heaven of the Bible.* By JAMES M. MACDONALD, D. D. 12mo., pp. 376. New York: Charles Scribner.

A religious book, designed, as we infer from its table of contents, to afford the consolations of Christianity to those who have been called to part with near and dear friends. The author has not, as he informs us, sought to invade the "reserve with which the word of God surrounds" the future residence of the race. He thinks, however, that all we are able to learn has been revealed, and that any attempt to attain to greater "definiteness" in respect to the locality, the particular scenery, and the employments of heaven, cannot promote reverence or true devotional feeling. He regards the "sublime writings" of the Bible as the only authorized messages from the spiritual world. Its tone is antagonistic to modern "spiritualism." The volume is dedicated to Rev. Dr. Spring.

- 15.—*The Great Harmonia*: Concerning Physiological Vices and Virtues, and the Seven Phases of Marriage. By ANDREW JACKSON DAVIS, author of the "Principles of Nature, her Divine Revelations, and a Voice to Mankind," "The Approaching Crisis," etc. 12mo. Boston: Sanborn, Carter & Bazin.

The fourth volume of Mr. Davis' *Great Harmonia*, the one before us, is entitled "The Reformer." It consists of a series of discourses written during the past year. They treat, as will be seen by the titles appended, of a class of subjects which, above all others, are most intimately connected with the organization, development, and destiny of individual and social man. By "physiological vices and virtues," we understand Mr. Davis to mean "those cases of the conjugal principle which tend directly either to demolish or to upbuild man's moral and physical nature." The volume contains seventeen lectures, the titles of which we subjoin for the purpose of giving the reader an idea of the contents, rather than any opinion of the character of the publication: 1, Philosophy of Reform; 2, Views concerning the Human Mind; 3, Physiological Vices and Virtues; 4, Classification of the Loves, and the World's View of Marriage; 5, Characteristics and Vices of Extremists; 6, Characteristics and Vices of Inversionists; 7, Secondary Causes of Conjugal Misdirection; 8, Origin and Dependencies of Love; 9, Woman's Rights and Wrongs; 10, Philosophy of Marriage; 11, Laws of Attraction and Marriage; 12, Transient and Permanent Marriage; 13, Different Attractions and Temperaments; 14, Internal Evidences of True Marriage; 15, Parentage; 16, Social Responsibilities of the Marriage Relation, or the Rights and Wrongs of Divorce; 17, Character of Ralph Waldo Emerson.

- 16.—*The Lily of the Valley for 1856*. With Illustrations. 12mo., pp. 256. Boston: James M. Usher.

This, as its title imports, is an annual, and of several years' standing. The engravings, (mezzotint,) six in number—the Flower Girl, Vignette Title, the Old Fort, the Family Mansion, Summerville, and Tuft's College—are pretty. The last-mentioned is from an original drawing by F. T. Stuart, and gives a very good view of the new college recently erected for the benefit of the denomination of Christians known as Universalists. Among the contributors to the literary department, we notice the names of Mrs. L. H. Sigourney, Mrs. Mary A. Livermore, Caroline M. Sawyer, Julia A. Fletcher, the Rev. E. H. Chapin, Rev. B. T. Thayer, Rev. Charles Brooks, Rev. J. G. Adams, Rev. M. Goodrick, and others of less note. The "I Will" of Mr. Adams should be "read, marked, learned, and inwardly digested" by every young man who would attain any desirable object in the "battle of life."

- 17.—*Short Potent Sermons*. By Dow, Jr. 3 vols. 12mo., pp. 288, 336, and 288. New York: Long & Brother.

Sermons are very generally regarded as rather dull reading. Not so the "ministrations" of Dow, Jr.; and his texts are not all taken from the "book of books," but from the whole range of authors, inspired or uninspired, from Moses to Moore; and sometimes for want of an appropriate text, the preacher manufactures one for the occasion. They are "short," occupying from one to two in three pages; the illustrations are spicy and grotesque; and whether in prose or verse—and both forms are adopted—the reader will find a vein of wit and humor, with words of worth and wisdom, permeating every page and paragraph.

- 18.—*The New Odeon*: a Collection of Secular Melodies, arranged for Young Voices Designed for Singing Schools and Social Music Parties. By GEORGE JAMES WEBB and LOWELL MASON. New York: Mason & Brothers.

This book, originally compiled for the purpose of furnishing suitable secular music for families and social musical parties, was first published in 1837. The *New Odeon* has been enlarged and improved, and contains a larger variety "than any other work of favorite songs, duets, and concerted pieces, so harmonized as to be within the capabilities of many singing schools and most choirs of the land."

- 19.—*The Aimwell Stories*. Ella; or Turning Over a New Leaf. By WALTER AIMWELL, author of "Oscar," "Clinton," etc. With Illustrations. 18mo., pp. 281. Boston: Gould & Lincoln.

One of a most excellent series of stories. Ella, like the other stories, is intended for both boys and girls, and is commended by the author to all children—whether good or bad—but particularly to those who are willing to consider the subject of turning over a new leaf.

- 20.—*Teverino: a Romance.* By GEORGE SAND. Translated by a Lady. Preceded by a Biographical Sketch of the Distinguished Authoress, by Oliver S. Leland. 12mo., pp. 280. New York: William P. Feteridge & Co.

George Sand has sometimes been accused of portraying dangerous, sometimes unnatural characters; in both cases she has probably relied on the good sense and judgment of her readers. She says, in the preface to this book, that reading any romances whatever is pernicious, nay, almost fatal to weak and ill-regulated minds. With great genius, whatever her errors, she has faith in the dignity and progress of the race, and believes that a man never falls so low as to be unable to rise again, if he does not lack courage and a true heart. Such is her firm faith for all humanity in all its errors, for all its misfortunes, and in all conditions of life. This doctrine appears to be aimed at in "Teverino."

- 21.—*The Blakes and Flanagans: a Tale Illustrative of Irish Life in the United States.* By MRS. J. SADLIER, author of "New Lights; or Life in Galway," "Willy Burke," etc. 12mo., pp. 389. New York: D. & J. Sadlier.

Mrs. Sadlier is doubtless an honest and conscientious Catholic, and all her writings are dedicated to one grand object—the illustration of her faith by means of tales or stories. The drama of the present story is taken from every-day life. It is cleverly written, and will be read with interest by her numerous Catholic admirers. We don't suppose our Protestant friends would take the trouble to read it, were we to recommend it ever so highly. We shall, however, find room for it in our library of religious and secular novels.

- 22.—*Stray Leaves from the Book of Nature.* By M. SCHELE DE VERE, of the University of Virginia, 12mo., pp. 291. New York: G. P. Putnam & Co.

We believe most of the papers contained in this book originally appeared in the pages of Putnam's incomparable Monthly. The author appears to be endowed with the love of nature in all its varied phases, and describes with graphic power its noblest and its most minute forms of beauty—rising from the smallest pebble on the shore to the mighty ocean, and its sublime life.

- 23.—*Twice Married: a Story of Connecticut Life.* 12mo., pp. 254. New York: Dix & Edwards.

This romance originally appeared in parts in Putnam's Monthly, and in that form met with a generous reception by the best critical authorities of the press and romance reading public. Every novel is, or should be written with an earnest purpose of some sort or other. The author of this, declares his highest aim in writing this book to have been a very ardent desire to amuse the readers of Putnam's Monthly; and although his story "pretends to be nothing more than a plain and homely sketch of rustic life," it is, in our judgment, a cleverly drawn picture of New England customs and characters.

- 24.—*Beechcroft.* By the author of the "Heir of Redcliffe," "Heartsease," etc. 12mo., pp. 304. New York: D. Appleton & Co.

The author of this book says of those who visit Beechcroft, there are some, who, honestly acknowledging that amusement is their object, will be content to feel with Lillas, conjecture with Jane, and get into scrapes with Phylis—all characters of the story—without troubling themselves to extract any moral from their proceedings. Those unreasonable readers who expect entertainment for themselves, as well as instruction for those who had rather it was out of sight, are turned over to the Mohun family, who hope their example may not be altogether devoid of indirect instruction. Those who have read and admired the Redcliffe or Heartsease of this gifted author, will, we venture to predict, pronounce the present equal to either of the author's previous productions.

- 25.—*Lake Shore; or the Slave, the Serf, and the Apprentice.* By EMILE SOUVESTRE, author of the "Attic Philosopher in Paris," "Leaves from a Family Journal," etc. Translated from the French. 12mo., pp. 239. Boston: Crosby, Nichols & Co.

The author of this work has chosen children for the heroes of his stories, because he sees in them the vices or the virtues of a period more clearly. The Slave, the Serf, and the Apprentice are the types of three states of society, which have immediately succeeded each other. In considering what the Past has been, we are more indulgent towards the Present, and look forward with more confidence to the Future.

- 26.—*The Parabolical Teaching of Christ; or the Engravings of the New Testament.* By the Rev. D. T. K. DRUMMOND, B. A., Oxon, Incumbent of St. Thomas's English Episcopal Chapel, Edinburgh. 8vo., pp. 440. New York: Robert Carter & Brothers.

No part of the New Testament is perhaps more instructive, or more capable of expansive teaching, than the parables of Jesus Christ. The lessons inculcated in most of them are plain and practical. What, for instance, is more beautiful or more in keeping with the character of the Teacher who uttered it, than that of the "Good Samaritan?" The author of these essays has grouped the parables of Christ under six distinct heads, and endeavored to elucidate and enforce the lessons they are designed to convey, in a simple but forcible and scholarly manner. The book will be highly prized by many "who profess and call themselves Christians," and few can peruse it without extracting from its pages some useful suggestions.

- 27.—*Pictures in Europe Framed in Ideas.* By C. A. BARTOL. 12mo., pp. 407. Boston: Crosby, Nichols & Co.

With a somewhat affected title, this is nevertheless an excellent book. It does not abound so in incidents as in the philosophy of travel. We should call it the essays of a traveler in Europe. It is divided into parts, with distinct titles, commencing with a poetical introduction, "The Two Journeys," and followed with captions to each succeeding part, as follows: Abroad and at Home; Beauty and the World, The Mountains; The Rivers; The Lakes; The Sea; Superiority of Art to Nature; Testimony of Art to Religion; The Enduring Kingdom; The Church; Society; History; Country; Mankind; Destiny, etc. The thoughtful reader will find much to admire in the sober vein that marks almost every page and paragraph of the unique pictures which the author has succeeded in "framing into ideas." Mr. Bartol is a clergyman of the Unitarian faith in its most conservative form.

- 28.—*The Curse of the Village; and the Happiness of being Rich. Two Tales.* By HENDRICK CONSCIENCE. Translated from the Original Flemish. 18mo., pp. 125. Baltimore: Murphy & Co.

Mr. Conscience enjoys a European reputation, resting mainly on those large historical romances in which he has illustrated, with equal power and beauty, the critical periods of Flemish national life. The charming tales contained in this volume, we have no doubt, will enjoy a popularity among our young friends equal to any former production of the gifted author. The daily life and habits of the author's countrymen are portrayed with marked minuteness and apparent fidelity of detail. The present volume is to be followed by another of similar character, containing a further selection of the tales of Flemish life, hitherto unpublished in England. They are written in a simple and attractive style, combining the most touching pathos and the broadest humor.

- 29.—*Table Traits with Something on Them.* By Dr. DORAN, author of "Habits and Men," and the "Queens of England of the House of Hanover." 12mo., pp. 488. New York: J. S. Redfield.

This is an extremely clever book, overflowing with wit and wisdom, intermingled with anecdotes and historical sketches of "table traits" in early and late times. The ancient cook and his art, and the modern cook and his science, are cooked up by the hands of a master. If Dr. Doran talks as well as he writes, he would make a capital table companion; and those who "read, mark, learn, and inwardly digest" his unique book, will find words and things enough to impart a zest to any meal, especially the materials for an intellectual feast—"the feast of reason and flow of soul."

- 30.—*My Mother; or Recollections of Maternal Influence.* 12mo., pp. 254. Boston: Gould & Lincoln.

In regard to the aim and character of this work, the author says, in a recent letter to the publishers, that however much of a biographical nature may be found in it, it was not intended as a biography, as some conceive it to have been, but educational. It is, however, presented in the narrative form, and will be found attractive and useful to mothers of young families. The author, who, we are told, has already distinguished himself in other walks of literature, chooses for the present to conceal his name. "It is one of those rare pictures," writes one who is himself an author of celebrity, "painted from life with the exquisite skill of one of the old masters."

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